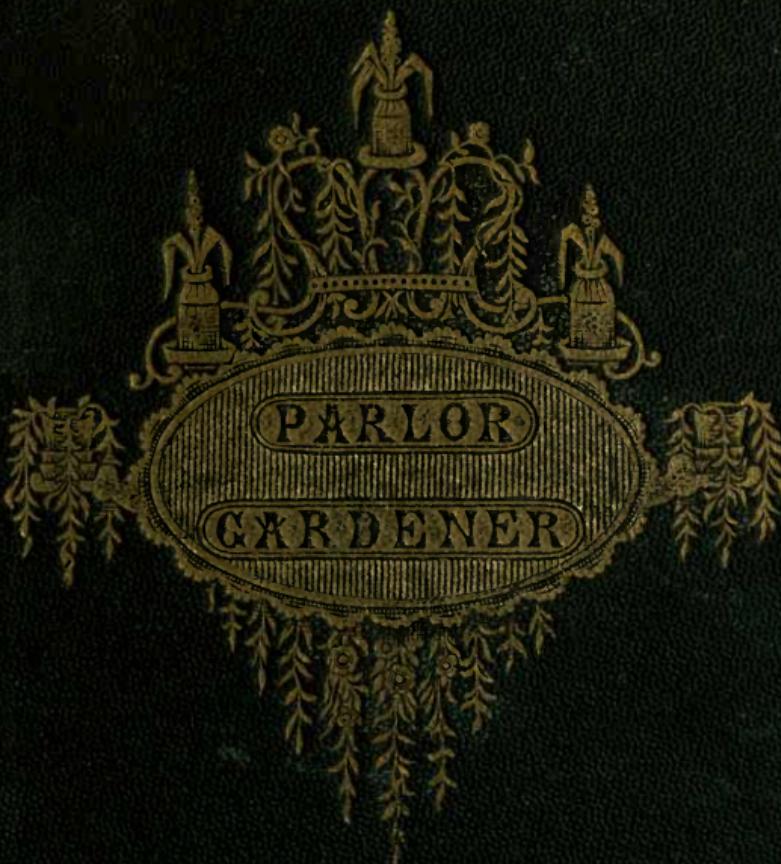


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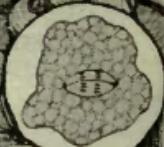
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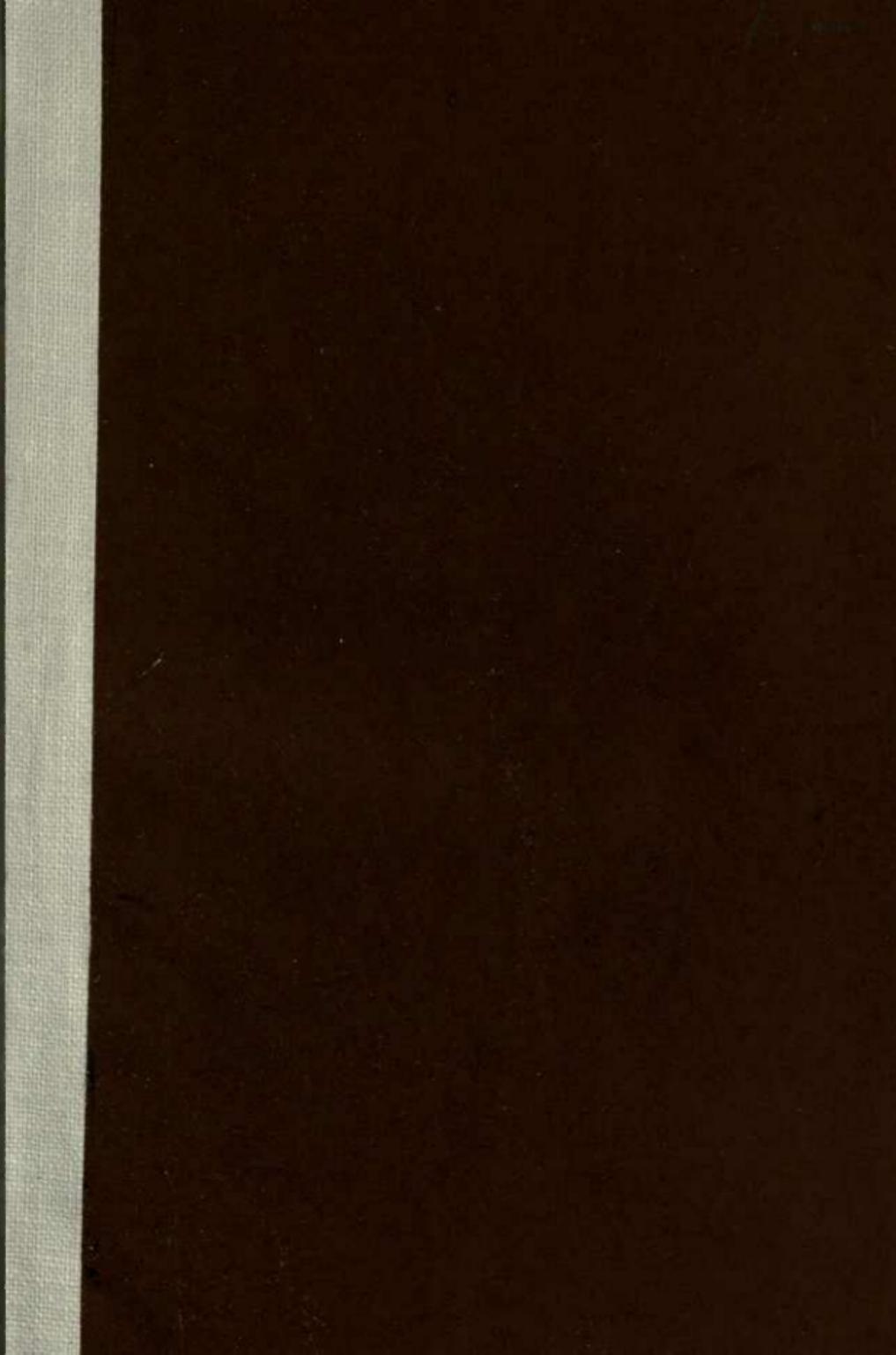
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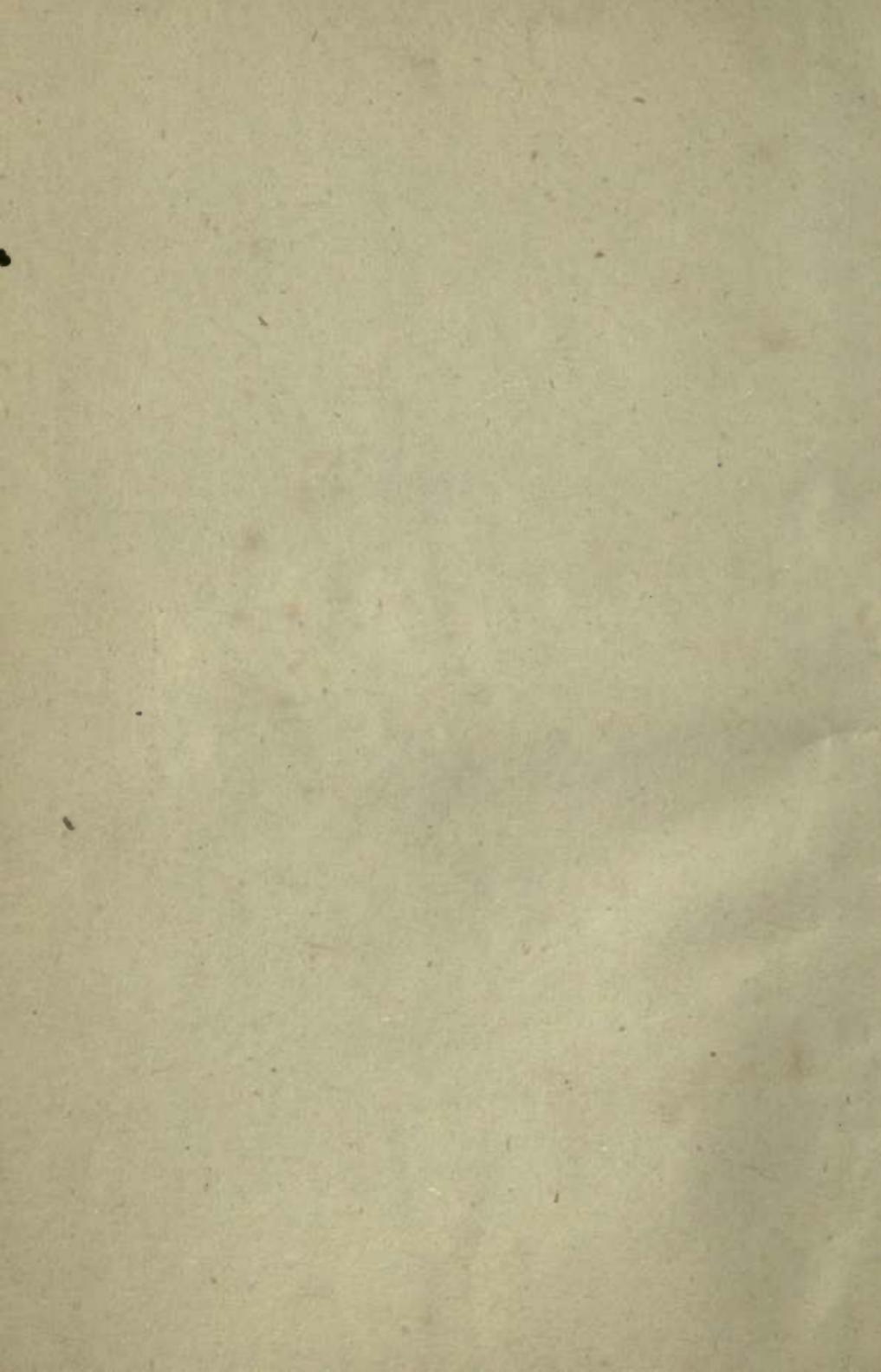
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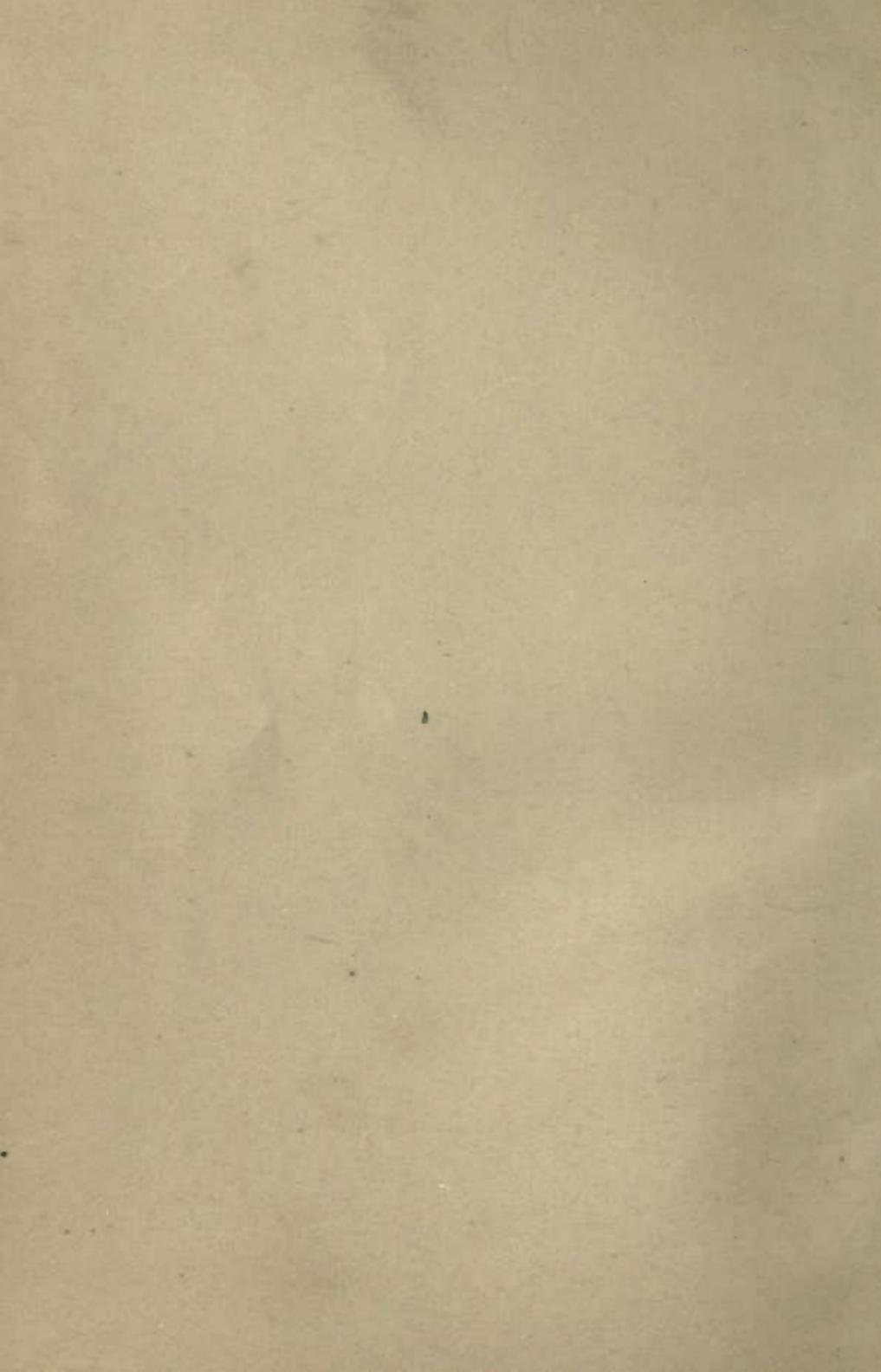
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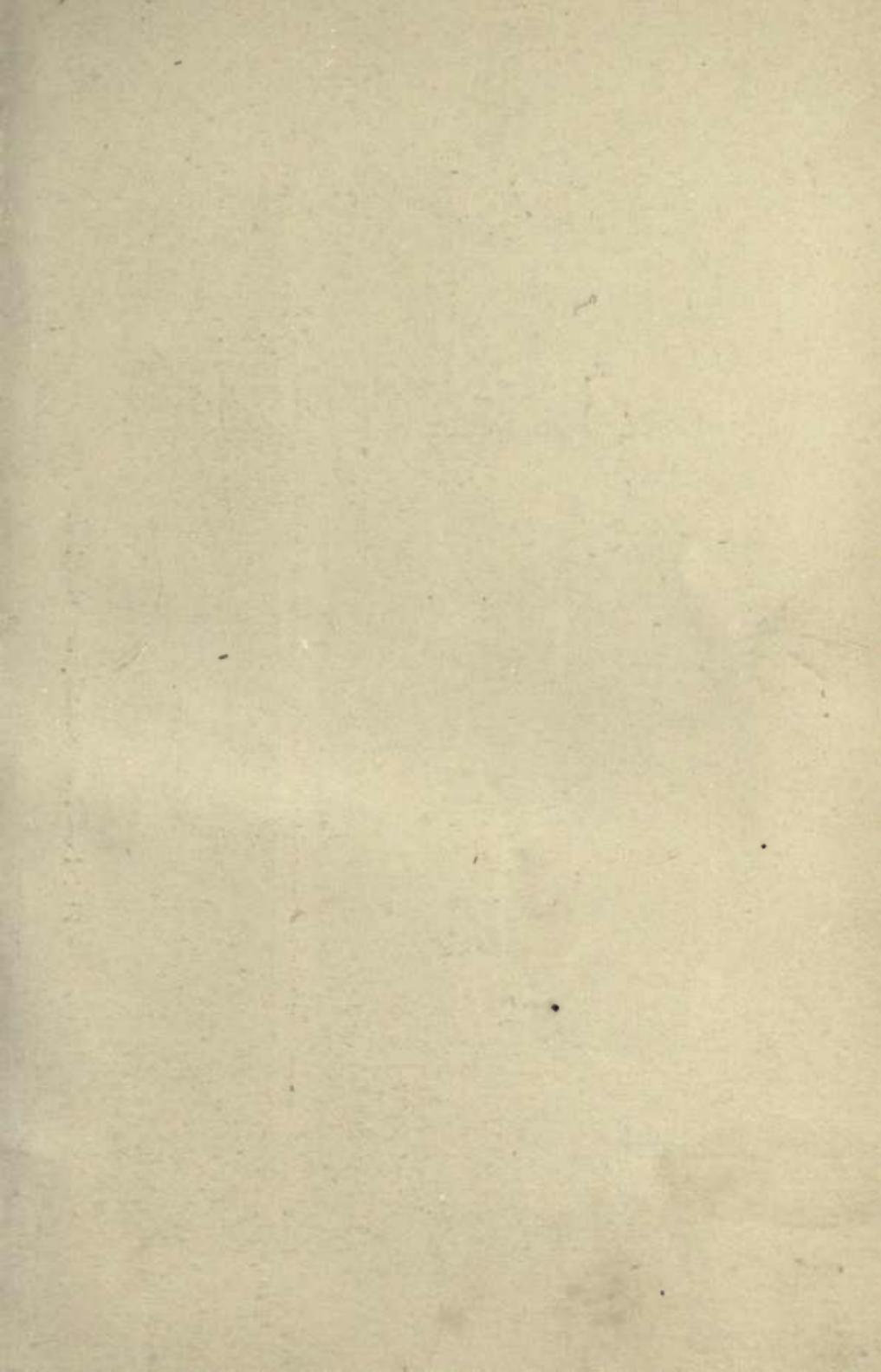












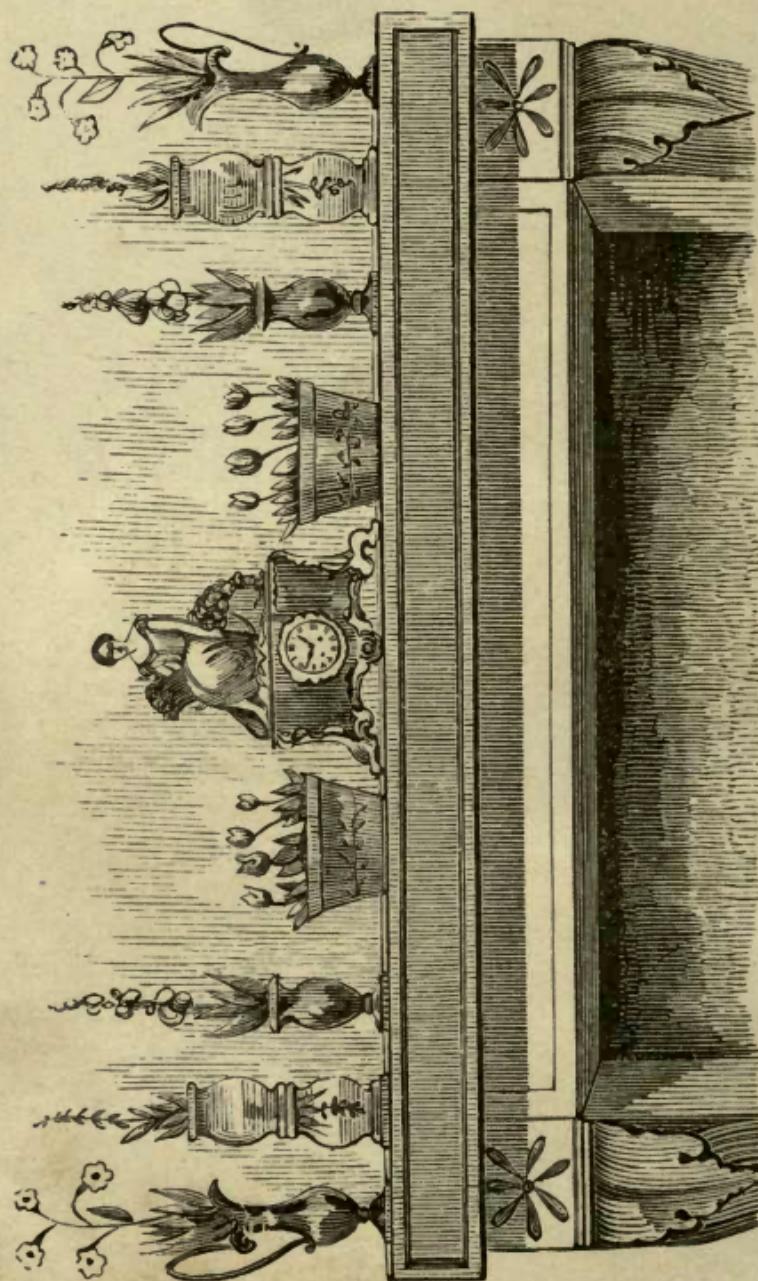


Fig. 1.—The Mantelpiece Garden.

THE

# PARLOR GARDENER:

A TREATISE

ON THE

## HOUSE CULTURE OF ORNAMENTAL PLANTS.

TRANSLATED FROM THE FRENCH, AND ADAPTED  
TO AMERICAN USE,

BY CORNELIA J. RANDOLPH,  
" "  
OF VIRGINIA.

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## AUTHOR'S PREFACE.



WHO in our days does not love flowers, and who does not like to do a little gardening? Assuredly, not you nor I, dear reader, nor any of our acquaintance. But the love of flowers, the taste which of all others affords the greatest amount of elegant and harmless pleasure, is by many deemed to be an unfortunate one, seeing that it is out of their power to indulge it. In your case, sir, for instance, the burden of business, oftentimes a terribly heavy one, which it is not in your power to shake off, absolutely forbids a residence in the country. And, in yours, my dear lady, the duty of watching over your young family obliges you to remain in the city. Others of your friends, who share your taste for flowers, are condemned to a sedentary existence, for the want of that most precious of all possessions — health. Time was when a few favored individuals possessed what was

called a garden in the interior of the city ; but, at best, those gardens had, as a celebrated wit expressed it, “the shut-up smell.” But nowadays nothing of the kind is to be found ; the opening of a street, the laying out of a square, has dispossessed them of the pent-up treasure, or else the ground has become of such value for building purposes, that it is sold at so much the square foot—a price sufficient almost to cover it with gold. Nor is this the case with the capital alone ; other cities less crowded, all towns, in fine, of sufficient consequence to grow, will soon be without a single garden, large or small, within their limits ; the flower, vanquished, retreats before the building stone. Happily it is not indispensable to possess a garden, either large or small, in order to have flowers, and to enjoy the tranquil delight afforded by the attentions one bestows upon them, and which one experiences in watching the various phases of their development.

Suppose yourself, for instance, after a severe illness, confined to your room by a long convalescence, which it is not in the power of any one to abridge. Even if you were the owner of a garden, you would then only admire its flowers at a distance, through your window panes.

Then it is that you would feel all the value of a chamber-garden, the flowers of which could be renewed at small cost every few weeks ; taking care to admit into it those only which, from the delicacy of their perfume, or their absence of smell, would be sure not to be injurious to your health.

Suppose this enforced seclusion to have begun in the month of May, a season at which a garden possesses the greatest attractions ; suppose your circumstances such as to forbid your indulging in the luxury, little expensive as it is, of a flower-stand ; in that case, here is a receipt for gardening without earth, without water, without so much as a flower pot even ; in a word, without any expenditure beyond a mere trifle.

Procure from a gardener a fresh bunch of a thick-leaved plant, named *rhodiola rosea*, in English the *houseleek*, that will cost you at most a few cents. At the beginning of June the stalks of the rhodiola are garnished along their whole length with fleshy leaves, and terminated by a bunch of buds, as yet but little developed, and disposed in a corymb. Drive into a wall two hooks, about half a yard apart in a horizontal line ; and upon this support lay the stalk of rhodiola, without tying it in any

part. This is all that is requisite for a curious experiment in parlor gardening, which cannot fail to awaken your interest and afford you amusement. Nature having endowed the rhodiola with the faculty of living, drawing its nourishment from the air alone, which it decomposes by means of its leaves, you will see it day by day, hour by hour, lengthen, turning upwards at the end where the flower buds are, and dropping its leaves at the lower part of the stalk, where they will dry up and fall off, one by one, while those of the upper part will preserve their freshness and become more numerous. Finally, it will bloom and present you with a bunch of rose-colored flowers as perfectly developed as if the plant had grown in good earth constantly watered.

When these flowers have faded, cut them off; and cut off also the lower part of the stalk. After this preparation, plant it in a pot filled with ordinary garden earth, which you must take care not to water too often. In this situation your stalk of rhodiola will take root, and will, before autumn, form a tuft of young shoots which will all bloom the following year, and supply you amply with the means to repeat the experiment just described.

The rhodiola is called by the French St. John's herb. You will wish to know, perhaps, my dear lady, the reason for this name. We will cheerfully satisfy your curiosity. In many parts of France the rhodiola grows abundantly on the outskirts of the woods, and there the experiment of its flowering without earth and without water is repeated every year in almost every peasant's cottage. If it blooms *before* the feast of St. John the Baptist, (the 24th of June,) they draw from this circumstance a favorable augury with regard to the success of a project or the accomplishment of a wish. In the contrary case, the presage is regarded as unfavorable. I must not omit to add, that this, which, in the middle ages, had truly all the reality and power of superstition, is now no longer any thing more than an amusement of young girls, in whom the oracle of St. John's herb inspires no more confidence than that of the white daisy.

Should it so happen that you wish to do a little gardening in your room, without being able to afford even the very small expense that the purchase of a bunch of rhodiola requires, —a thing which may happen to any one,—spend nothing at all. Ask some kind acquaintance to

procure for you a tuft of the yellow *sedum*, (stone-crop.) It is a very pretty wild plant, which bears, in place of leaves, little green excrescences elegantly set into one another. Each stalk forms part of a tuft composed of a great number of stems coming out from a common centre, and each bears on its top some star-shaped flowers of a beautiful golden yellow. Fix a strong pin into the wall paper of your chamber, and hang a tuft of stone-crop to it by a thread, which you must take care not to tie too tight. In a few days the stalks will curve upwards and stand upright, and the flower buds will all open exactly as if the plant had not been taken from the place where it first grew.

You see now that there are flowers for every body without exception; and of this you will become more fully convinced if you will only peruse, with a little indulgent attention, my **PARLOR GARDENING.**

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THE  
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PART I.

THE GARDEN IN THE APARTMENT.

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CHAPTER I.

*Divisions of the Work.* — Part I. The Garden in the Room. — Part II. The Garden at the Window. — Watering. — Temperature of the Water for Watering. — Effect of Cold Water upon Plants cultivated in a Room. — Warmth. — Advantages of the Heat being equal Night and Day. — Light. — Ventilation. — Cleaning of Broad-leaved Plants. — Same of Narrow-leaved.

**Divisions of the Work.**

IT IS not always easy to cultivate ornamental plants in an inhabited room ; but, far from complaining of this difficulty, we should, on the contrary, congratulate ourselves on it, for it is a great pleasure to do a difficult thing and suc-

ceed in it. To be successful in parlor gardening, nothing is requisite but care and patience: much of these is necessary, and so much the better — this sort of gardening belonging peculiarly to those who have a great deal of leisure. The extent to which parlor gardening can be carried on, the kinds and variety of plants that it may embrace, the times of the year in which we can occupy ourselves in it with the most pleasure and success, — all this varies according to the space we have, and the fitness of the situation for our experiments. We shall take into consideration all these things, as they present themselves in the natural course of ordinary life. That we may arrange our hints in some order, we will examine separately the *garden in the room* and the *garden at the window* — these being the two natural divisions of this treatise.

In Part I. separate chapters are devoted to the garden on the mantel-piece, the garden on the *étagère*, that on the flower-stand, and that in the portable greenhouse. The different methods of propagation — by seeds, by slips, and by grafts — are the subjects of so many separate chapters.

They are the most delicate and the most amusing of the operations of parlor gardening. This Part will terminate by details on the parlor aquarium.

In Part II. gardening is considered under all the aspects that it can present — on the veranda, between the double windows, (which will be converted into a miniature conservatory,) and on the terrace, (which, even when it is not very large, can be made into a real garden,) where we can have flowers all the year round, in less number, doubtless, but as beautiful and as various as in a well-kept parterre.

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## GENERAL DIRECTIONS.

### Watering.

In order to cultivate ornamental plants with success in a room, we must reflect that they have their wants and their enemies ; and we must satisfy the one and protect them from the other. Plants confined within our dwellings have need of earth suited to their temperaments ; and it is easy to procure it. They require also watering ;

some rarely and sparingly, others often and profusely, but always with water of the same temperature as that of the earth in which they are placed—this being a very important point, upon which most people who have flowers in pots in their chambers are perfectly ignorant. You ladies like a comfortable degree of warmth; so also do your plants; and nothing is more agreeable, and at the same time more healthy, than a good temperature within doors when the cold reigns without. Yet, mark what frequently happens: Some beautiful camellia is your delight. To judge by the profusion of buds with which it is loaded, it promises a splendid bloom in January. You have been enjoined not to fail to water it evening and morning, and this injunction you punctually fulfil. But in what way? You go to the dining room sideboard for the water pitcher—you find it empty—you have it replenished from the filter—the temperature of this water is almost icy—you pour it upon the roots of your camellia. Suppose some one was to pour icy water upon your feet—the shock would make you cry out. Your camellia says nothing, but it does not suffer

less. Its sap, that was in full activity, slackens—stops; and, that it may begin to flow again, all the buds drop, one after another—not a single one can bloom. You are astonished at this, and say, "It is not my fault." In Sir Walter Scott's "Pirate," the gardener of the Shetland Isles is surprised that his apple trees have frozen. He says, as you would say, "It is not my fault; I watered them all the winter—with warm water." It is the same error reversed. Remember, then, that in watering any plant whatever, cultivated in a pot in a room, the first requisite is, that the water you use be of the same temperature with the earth in which the plant grows.

If you have occasion to visit a greenhouse, and it should happen that you pay a little attention to the manner in which it is managed, you will remark that it always contains a reservoir of water intended to water the plants with. This water, from the circumstance alone of its remaining in the greenhouse, takes the same temperature with it before it is used. This is an example that must be followed. In the evening, place in the chamber a vessel containing the quantity of water neces-

sary to water the plants next morning ; this water and the earth of the pots will be of the same temperature.

### Warming.

As to heat, that is not what is most important for the health of your plants ; the greater number of those which you can have in cold weather will always be warm enough in your house, provided it does not freeze there. The essential point is, that they should not pass by sudden alternations from heat to cold, and that there should be as little difference as possible between the temperature of night and day. In this respect it is not difficult to give them satisfaction, while at the same time you are making yourself comfortable.

### Light.

But there is another element of which they all have as much need as of heat ; that is light. Do not be afraid of inconveniencing yourself a little, of spoiling the symmetrical arrangement of your furniture, in order that your flower-stand may receive as much light as possible, and be placed as near to where it comes in as the gardeners by pro-

fession say ought to be done, and as they do in their greenhouses. If you travel in Belgium, in Holland, in the north of Germany, a country where parlor gardening is very much in repute, you will see that all who have flowers in their rooms (and every body has) place them conspicuously upon *étagères* painted green, which gives to entire streets the appearance of a floral exhibition. There is a street in Brussels, where, if you wish to see a continual display of gardening and botany, you have nothing to do but to walk along and look at the windows on each side. And you might, in your walk, get some useful hints with regard to the kinds of ornamental plants you wish to cultivate in your parlor.

### Ventilation.

After water, heat, and light, the continual renewal of air for your plants is most necessary. If your room is warmed by a good open fireplace, which draws well and gives you a clear fire without smoke, so much the better; the draught of the chimney renews sufficiently the air of the apartment: both your own health and that of

the plants must be the better for this. Do not put your plants in a room in which the chimney smokes; or in a place warmed by a stove or furnace; they will have too little air in this latter case. You will say, that, in the greenhouses and conservatories it is by various systems of warming-pipes that a proper temperature is kept up; and that the plants do well. This is true; but alongside of the heat pipes are pipes for ventilation, bringing continually into the greenhouse the air from without, which is warmed by its contact with the heat pipes before it mixes with the interior air; and the freshness of this interior air is thereby maintained. Not so in a chamber warmed by a stove.

#### Cleaning.

Plants in a room have really but one enemy—the dust necessarily raised by sweeping. Those plants, as the camellias, kalmias, and rhododendrons, which have leaves both large and thick enough for the process, ought to be wiped at least twice a week with a moistened sponge. As to those whose leaves are too small to admit of this sort of cleaning, as the *ericas* (heaths) and the

*epacris,\** you must proceed in the following manner: Fill a watering pot, the rose of which has very fine holes, with water of a proper temperature; incline each pot containing a plant to be cleaned separately over the sink, and then with the watering pot, turning the plant round all the time in every direction, pour a fine shower, which will have all the effect of a real rain. By this means you avoid wetting the earth of the pots to excess, and the plants will be perfectly freed from dust.

These general attentions are applicable to all plants that can be cultivated in doors.

\* The epacris is a New Holland shrub, which the first settlers mistook for a kind of heath, and which is still called heath in Australia, where the true heath (*erica*) is unknown.—Mrs. Loudon's *Ladies' Companion to the Flower Garden*, edited by A. J. Downing.

## CHAPTER II.

## THE MANTEL-PIECE GARDEN.

Plants which will do for it.—Choice of Flower Bulbs.—Hyacinths blooming under the Water.—Disposition of the Vases for this Experiment.—Planting the Bulbs.—Hyacinths forced, in Water.—Jonquil.—Crocus.—Van Tholl Tulips.—Flower Pots for the Garden on the Mantel-piece.—Care of the Bulbs after Flowering.—Separating the Tufts of Crocus.—*Vanilla Tussilago*.\*—Hepaticas.

YOU HAVE no idea, ladies, of the amount of instructive and agreeable hints I am to give you in this chapter: its title is not in the least deceptive; you can really make for yourself a garden, without any other place at your disposal than your mantel-piece. I take for granted, that you will begin in good time to kindle your fires, and that they will be kept up until spring has fully taken possession of the outer atmosphere.

On this condition, there will be no disappointment for you, in the resources that your garden on the mantel-piece will afford.

\* *Tussilago* — coltsfoot. *Vanilla tussilago* is probably the *tussilago fragrans*.

### Choice of Flowering Bulbs.

By the end of September, the evenings in some of the states are cool; a little fire is indispensable after sunset. It is now time to procure good roots of hyacinths, crocuses, Van Tholl tulips, and jonquil. You must not choose the largest among these bulbs, which are not always the best by a great deal; but those of medium size of their species — firm, smooth, shining, free from spots or bruises, and from softness. Those which give premature signs of vegetation ought to be rejected.

### A Hyacinth blooming under Water.

Having made your choice among the brightest shades of blue, red, and yellow, you must give your greatest care to a charming experiment which will be the source of a very agreeable amusement for you all the winter. You can procure, at a small expense, two vases of plain, clear, uncolored glass; both of the same form, except that one has no bottom, and is a little smaller than the other. They are to be used as follows: Put into

the one that is open at both ends one of the finest of your hyacinth roots ; suppose you take one of a fine red—a sultan Soliman for instance ; place this bulb in a position inverse to its natural position, that is, with the bottom up, and the top, from which the leaves and flowers are to come, downwards, even with the orifice at the bottom of the vase. Then you must crumble a mixture of good garden earth and leaf mould over the bulb until the vase is three quarters full. A second bulb with a flower in strong contrast to the first, say a blue if the flower of the first is red, and *vice versa*, must be next placed in the vase, so that the top shall be even with the upper orifice. You have nothing more to do than to place the vase thus prepared upon the first vase, full of water.

Two similar couples look very well, placed upon the two ends of the mantel-piece of a room in which people habitually sit, and where, consequently, fire is constantly made while the cold season lasts. The earth in the upper vase should be moderately watered as soon as the bulbs are placed in it, and then kept constantly moist,

avoiding excess, by renewed watering whenever you perceive that the earth is getting dry.

At the end of two days, the crowns of the two bulbs will both send out straight, white roots; those of the reversed bulb turn down in curves, but do not fulfil their functions worse for that. Very soon the two bulbs placed in a contrary position to each other put forth leaves—the one into the air, the other in the water; then you will see appear in the midst of the transparent liquid the buds on the floral stalk, and finally the flowers, as beautiful, as well formed, of as rich a color, surrounded by leaves of as fine a green as the corresponding parts possess, of the other flower planted in the ordinary manner, and vegetating and developing in the air, its natural element. It is true that time is necessary for all this to be accomplished: bulbs planted in October will flower fully in February or March; but is it not a pleasure to watch day by day the phases of their development, above all that of the hyacinth which ends by blooming in the water, head downwards?

### Hyacinths forced in Water.

While these curious phenomena in vegetation are being accomplished, you should place other hyacinth roots in bulb glasses, either blue or colorless, of the form adapted to this purpose, which you must not fail to keep constantly filled with water, so that the liquid shall be even with the crown—that is, with the edge of the flat part of the bulb—without ever passing it. For filling these glasses, as for watering the earth where the bulbs grow one above the other, one upright and the other reversed,—remember that you must use only water of the temperature of your room. Without this precaution you will spoil all, and the bloom of your bulbs will be miserable.

### Jonquil—Crocus.

The roots of the jonquil should be treated like the hyacinth roots,—using pure water. As you cannot count with certainty on the blooming of all roots, it is prudent to put at least three in the same glass—placing them on a flat, thin, round piece of wood with three holes cut in it.

They bloom at the same time with the hyacinths. In the spaces between the glasses containing the bulbous plants nourished by nothing but water, place pots full of earth, mixed half and half with garden manure; leaf mould would not be strong enough. Plant in these crocus bulbs, taking care to group in the same pot the varieties of fine colors—pure white, white striped with violet, and plain violet. The flowers of these plants, which precede the development of their leaves, contrast agreeably, by the vividness of their colors, with the pale yellow of the jonquil.

### Van Tholl Tulips.

Other pots like the first, and filled with the same mixture, must have in them roots of the Van Tholl tulips, a charming little tulip with a dwarf stem and petals of a bright red bordered with golden yellow. All these flowers develop at the same time, presenting a happy variety of forms and shades in the bloom of a mantel-piece garden, whilst Nature is at work without, preparing her more abundant supply of flowers in the open air.

### Flower Pots for the Mantel-piece Garden.

Whatever may be your taste for elegance, believe in the experience of an old gardener, and never plant your crocuses and Van Tholl tulips on your mantel-piece in any thing else than the ordinary earthenware flower pots, which cost a few cents, varying in price according to their size. Conceal their coarse surfaces with coverings of glazed paper, folded and cut at their upper edge, and place under each pot a porcelain saucer; and this is the utmost extent you can be permitted to go in sacrifices to elegance. If you plant these poor bulbs in rich vases of varnished sheet iron or porcelain, painted and gilt, they will languish, and your hopes will be completely deceived; for they will bloom badly, or not bloom at all. The porous nature of the ordinary earthenware flower pots is perfectly well adapted to the vegetation of the roots of ornamental plants. If you place these roots in iron or porcelain, you will not obtain, however sedulous your care, any satisfactory result; no more in the garden on the mantel-piece than elsewhere.

**Care of Bulbs after the Bloom is over.**

Bulbs which have vegetated in water do not necessarily perish after blooming. Do not wait until their leaves turn yellow and fade before you take them out of the water. When you have done this, let them drip well; cut off the fibrous roots, the leaves, and the flower stalk, and place them in a drawer where they will be protected from moisture. The next year, those which have not turned soft should be planted in earth, out in the open air, that they may recover if they have strength enough to do so, or to give offsets or young bulbs to replace them in time. The bulbs which were planted in earth will not have suffered in any manner from having been forced in the mantel-piece garden. Before taking them out of the earth, you must wait until their leaves are half turned yellow after they have bloomed; then let them lose, by drying in the air, a part of the moisture they had while vegetating; after which clean them and put them away with the others; they will serve perfectly a second or third time for the same sort of culture.

If you like crocuses, — and if you do not, you are too hard to please, for there is not a spring flowering plant fresher or prettier than the crocus, — you must continue to water them after the bloom. Their leaves, of a fine green marked throughout their length with a white line, will not be amiss as part of the decoration of your mantel-piece garden. When the leaves begin to turn yellow, you must cease entirely to water them ; but you must not take up the crocus roots. They must be left in the dry earth until next year. They will keep there very well, surrounded by their young family ; for they produce every year a certain number of little ones, which will bloom in their first spring. These bulbs ought only to be taken up every three years, and then for the purpose of separating the clusters ; without which the pots would be too full — there would not be nourishment for the whole family. When managed in this manner, the tufts of forced crocuses are more beautiful the second year than the first, and still more beautiful the third year ; after which you must renew the plantings.

The very easy gardening, of which we have just described the process, will bring you to the fine weather; and then, if you go to the country to pass the summer, the mantel-piece may remain widowed of its garden until autumn. But if you remain, you may put upon the mantel-piece some of your prettiest flowers, whenever you have too many for your balcony. They will there require attentions of which we will tell you in the part of this work particularly devoted to the garden at the window.

#### Vanilla Tussilago—Hepaticas.

Has your mantel-piece room enough to admit of two or three supplementary pots? Then put there—if you are not afraid of sweet, penetrating perfumes, a pot of vanilla tussilago. The flower is ugly, but of an odor equal to that of the sweetest orchises, and it does not affect the head.

If you are afraid of odors, even the delicate and inoffensive, substitute for the vanilla tussilago rose-colored and blue hepaticas, which are charming in form and color, and have no perfume. With these resources there is abundant

material to give you a taste for the culture of flowers in the mantel-piece garden. The vanilla tussilago and the hepatica are flowers of a most accommodating disposition ; nothing more is necessary to them than half a glass of water every two days, and for the temperature of your chamber to be such as suits yourself.

## CHAPTER III.

## THE ÉTAGÈRE GARDEN.

Gardening on the Étagère.—Succulent Plants.—Peculiarities of their Organization.—Dwarf Succulent Plants.—Quantity of Earth of which they have need.—Aliments that they draw from the Air.—Cactus.—Opuntias, (Prickly Pear.)—Melo-cacti, (Melon Thistle.)—Echinocacti.\*—How the Goats of Jamaica make them drop their thorns.—Stapelias.—Strange Shape of the Flower.—Its Smell.—Proof of the Sense of Smell in Flies.—Sedums.—Mesembryanthemums.—Ice Plants.—Crassulas.—Culture of Dwarf Succulent Plants.—Necessity of depriving them of Water during their Sleep.

## Gardening on the Étagère.

IT IS but a few years since the fashion of *étagères* has become general. People began by covering them with all sorts of curiosities and specimens of natural history—a custom which exists still. Then they fabricated out of wire, gilt, silvered or bronzed, charming little *étagères* in

\* Round-shaped cacti, which take their name from their resemblance, in form and spines, to a curled-up hedgehog.—Mrs. Loudon's *Ladies' Companion to the Flower Garden*.

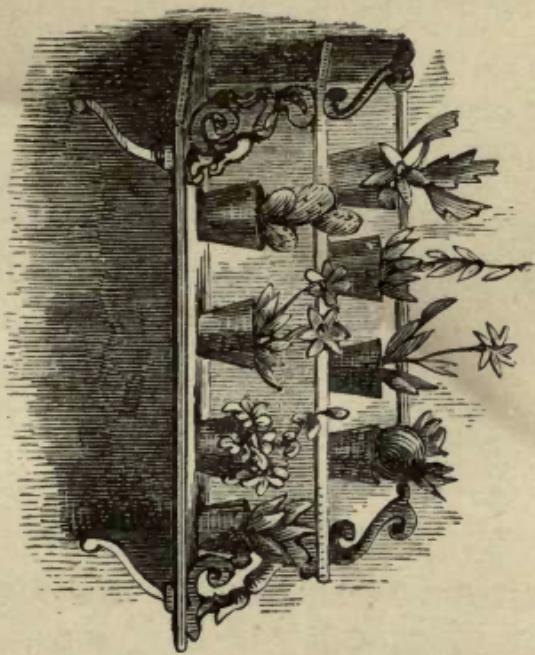
open work, which took up little room, could be hung up any where, and hold a whole collection of little ornamental plants.

This series of plants belongs, for the most part, to an order of vegetation having a very peculiar organization, and endowed with extraordinary vital energy. They are commonly called *succulent* plants, and are remarkable for the thickness of their fleshy and persistent leaves. Among a great many of these plants, the stalk and the leaves are one and the same organ: the leaves, when leaves exist, fulfil the functions of the stalk; and reciprocally, when the leaves are wanting, their vegetative duties are fulfilled by the stalk.

#### Dwarf Succulent Plants.

You have no idea, my dear madam, how much skill and patience the horticulturists by profession have displayed in dwarfing these pretty plants; some of which, when left to follow their own notions, in their native country, attain to colossal dimensions.

Fig. 2. — Etagère with dwarf succulent plants.





### Quantity of Earth requisite for Dwarf Succulent Plants.

A fact which, above all others, must strike us in examining a collection of dwarf succulent plants, is the extremely small quantity of earth allowed to them. Of those which come most properly under this head, some will live in pots of the size of an ordinary tumbler; whilst others are cooped up in still narrower lodgings, their domicile not exceeding the dimensions of a small wine glass. It is because in general the succulent plants, dwarfed or not, scarcely live by their roots. Then, you will say, on what do they live? They sustain themselves on an aliment with which neither you nor I would content ourselves; they live on the air of the heavens—literally, and without rhetorical figure. By the way, permit me to remark to you, that all plants, without exception, live more or less on the air; even those which derive the greater part of their nourishment from the earth.

Suppose some immense tree felled, split, and cut up into small pieces, and converted into char-

coal; it would make an enormous mass of it. Do you imagine that the tree could have drawn this mass of carbon from the soil where it grew, which does not contain a particle of carbon in its composition? No, it drew this material from the atmosphere, by decomposing the air with its leaves. That is what our pretty little dwarf succulent plants do; and without this faculty, which they possess in a very high degree, they would not live.

### Cactus—Opuntias.

Consider first those which belong to the numerous and strange family of the cactuses; all of them natives of the warmest parts of America. See the opuntias, whose leaf-stems, or stem-leaves, whichever you please to call them, have the form of so many battledoors placed alongside of each other. These little plants represent to you in miniature those on which, in Mexico and in the Island of Madeira, lives the insect called *cochineal*, that furnishes to dyers and painters their finest red, under the name of *carmine*; from which also, by the by, is made that *rouge* which occasionally serves in giving color to the com-

plexion of ladies towards whom mother Nature was stingy when she painted their cheeks. I do not mean, however, my dear young ladies, to intimate that this was, by any means, the case with either of you.

### Melocacti and Echinocacti.

To the same family belong also the melocacti and echinocacti. Their rounded forms composed of prominent ridges, their pretty crown of little satiny flowers, of a fine golden yellow, resemble those of no other family. In the mountains of the interior of Brazil, and in those of the centre of the Island of Jamaica, these same plants,—plants of the same species,—that you here see reduced to such exceedingly small proportions, grow upon the slopes of the most arid rocks, and become very large. Knowing this, you will understand that their bunches of thorns, inoffensive in the dwarfed plants because of their minute size, constitute defensive weapons whereby they are preserved from the teeth of animals. Nevertheless, these arms prove useless to them against the wily attacks of the numerous herds

of goats kept by the English colonists of Jamaica. The goats, animals essentially climbers by nature, climb up the most abrupt declivities of the rocks covered with melocacti and echinocacti. There, using their horns for the purpose, they root up these plants, and roll them down into the valley, where, as a preparation for eating them, they play with them as a child would play with a toy balloon, until, by dint of rolling and tossing them about on the pebbles, the thorns have been all shaken out. Then the goats are able to feast upon them without damage to their mouths, just as though the thorns of the colossal cactuses were as little to be dreaded as are these downy representatives of those hard and tough spikes, produced by their sisters in miniature.

### Stapelia.

There are other plants, of a different family, but the forms of which recall those of the cactuses: these are the stapelias. You will not fail to remark their strange flowers — thick, fleshy, violaceous, set with rough hairs, and having the form of a star. Do not approach too near this

plant while it is in flower; for its odor is not agreeable. This peculiarity, however, should not induce you to exclude it from your *étagère*, where it will be very well placed, because of the singularity of its form. As to its smell,—which is not strong enough to incommod you,—I should not have mentioned it, but for the circumstance of its having caused this flower to be mistaken for a very different thing by the flies called flesh-flies; which mistake has given rise to quite a curious observation in natural history.

Have flies noses? you will say, ladies.

I must acknowledge that I do not know whether they have or have not noses; although entomology, together with botany, are my favorite studies. This much, however, I do know—that they have the sense of smell. That this is certain you can ascertain for yourselves, by having a *stapelia* in bloom upon your *étagère*. The flower of the *stapelia* smells like meat that has been kept too long; and flesh-flies, who lay their eggs on spoiled meat, are attracted to this flower by its smell. These eggs give birth to worms destined to become flies in their turn. If you shut flesh-flies up in a

chamber where there is a *stapelia* flower, they will come and lay eggs on this flower, taking it for flesh—an error which they cannot be led into by the sense of sight, for the *stapelia* flower does not resemble in any respect a piece of meat. Consequently this mistake can only arise from their being deceived by the smell; from which fact naturalists draw the conclusion, not that they have noses, but that they have the sense of smell.

#### Sedums and Mesembryanthemums.

There is another family of plants, no less various, no less rich in pretty and copiously flowering species, than the cactus family itself. These are the sedums; among which I have already made you acquainted with the pretty, yellow, star-flowered sedum, (stone-crop,) which blooms without earth and without water, suspended by a thread to the wall of a room.

Another species, that of the mesembryanthemums,—with numerous flowers of all the shades of red, from the color of fire to the palest rose,—belongs also to the series of succulent plants. The prettiest varieties have been rendered dwarf by

the horticulture of our day. If their name—a little long and a little learned—seems disagreeable to you to pronounce, call them plainly *ice-plants*. This is the common name of the variety that is the most extensively cultivated, and the leaves of which, with the stalk also, are powdered white, as if covered with frost.

There are also the *crassulas*, with their leaves elegantly imbricated, and their little bunches of flowers of the deepest red. You will find some, also, of a pale rose-color. Both are as perfect in form, and as brilliant in color, as the same plants are in their natural dimensions, of half a yard or more in height.

I pass over some of the best. But when you have made your choice among the prettiest dwarf varieties of cactuses—of the kinds of *opuntia*, *melocactus*, *echinocactus*,—and when you have added to these *stapelias*, *sedums*, *ice-plants*, and *crassulas*, confining yourself to the finest varieties,—you will have not only a sufficiency to decorate your *étagère*, even if it be a large one, but also enough to fill an elegant basket, which will produce the best effect in the middle of your stand.

And then, during more than half of the year, you will constantly have some of your dwarf succulent plants covered with pretty flowers.

### Culture of the Dwarf Succulent Plants.

It only remains to give you some hints about the way of managing them. For this purpose it is necessary to say a few words about their temperament. Cactuses, in their native country, bear excessive heat and dryness for six or seven months without interruption, followed by deluges of rain. The most violent storm-rains in our latitudes afford but a very faint idea of those tropical deluges. During the dry season, the vegetative life of the cactuses is almost quite suspended. Their sleep is then much more profound than that of the plants with us which lose their leaves in winter. Now, from the knowledge of these facts, we perceive what sort of management is most suitable for them. All those which give no sign of active vegetation — on which neither young shoots nor flower buds make their appearance — ought to be watered only once a week. You may abstain altogether from watering them; there will be

neither more nor less budding for it when the proper time comes. Continue the same treatment if, at the return of warm weather, the cactuses show no signs of flowering: leave them dry a month or two; they will not die for it — no danger of this. When they begin spontaneously to vegetate, begin to water them with water of the temperature of the room; at first moderately, afterwards a little more freely, but never to excess. The floods of rain that they get in their native country do not hurt them there, because the tropical climate renders evaporation rapid. It would not be the same in your house. The quantity should be, a tablespoonful of water for the pots of the size of a tumbler, and a teaspoonful for those the size of a wine-glass.

#### Necessity of depriving them of Water during their Sleep.

That you may perfectly understand the necessity of not watering your cactuses during the sleep of their vegetation, I will relate to you what happened to a botanist, who, being extremely fond of cactuses, had a very fine collection of

them. A friend sent him a box of cactuses from the province of Minas Geraes, in Brazil, which he hastened to put in pots in his conservatory, and at the same time put by in a drawer a double set of specimens, which he proposed to make presents of. Forced to set out on a long journey, he forgot the cactuses in his drawer; and on his return home, after an absence of several months, he found them there, faded, withered, in so deplorable a state that he thought them lost. Nevertheless, he planted them, and began to water them by degrees. All recovered and flowered abundantly; while those which had been planted, and taken care of ever since their arrival, only flowered in part; many did not flower at all. His gardener had been afraid of letting them suffer from thirst, and had given them too much to drink.

Keep in mind, then, ladies, that in order that your cactuses may bloom, it is necessary that the periodic sleep of their vegetation should be complete; and that it cannot be so if they be watered at the wrong time. As to temperature, they are of a temperament that accommodates

itself very well with what suits yourself. When they bloom during the warm weather, put the *étagère* before the open window some hours every day; your cactuses will be the better for it; their bloom will be more brilliant and of longer duration.

The staphelias must be treated like the cactuses — no difference. The other succulent plants require a little more water in winter; their sleep being never so absolute as that of the cactuses and staphelias. Nevertheless, if you would have them to flower well when they wake, let them sleep. Do not water them during their sleep, except when they appear evidently to be suffering from thirst; and then give them only just so much as is necessary to relieve their suffering.

## CHAPTER IV.

## THE FLOWER-STAND GARDEN.

Manner of keeping it. — Plants bought in Bloom. — Plants to cultivate on the Flower-stand. — Its Dimensions. — Climbing Plants. — Passion-flower. — *Mandevillea suaveolens*. — Wood Pink. — *Thunbergia alata*. — Climbing Double Violet. — Manner of cultivating it. — Plants for the Middle Part of the Flower-stand. — Camellia. — Methods to prevent the Buds from falling. — Management in cultivating. — *Ericas* or Cape Heaths. — *Pimeleas*. — *Mignonette* as a Tree. — Manner of forming it. — Its Duration. — Necessity of loving Flowers in order to take good Care of them.

Manner of keeping a Flower-stand furnished  
with Flowers.

A FLOWER-STAND is a very pretty piece of furniture, which may be a little more simple or a little more ornamented, according to the degree of simplicity or elegance of the furniture around it, with which it should harmonize. It makes a necessary part of that furniture. There are two different ways of making use of it: these must be considered separately. If you merely wish

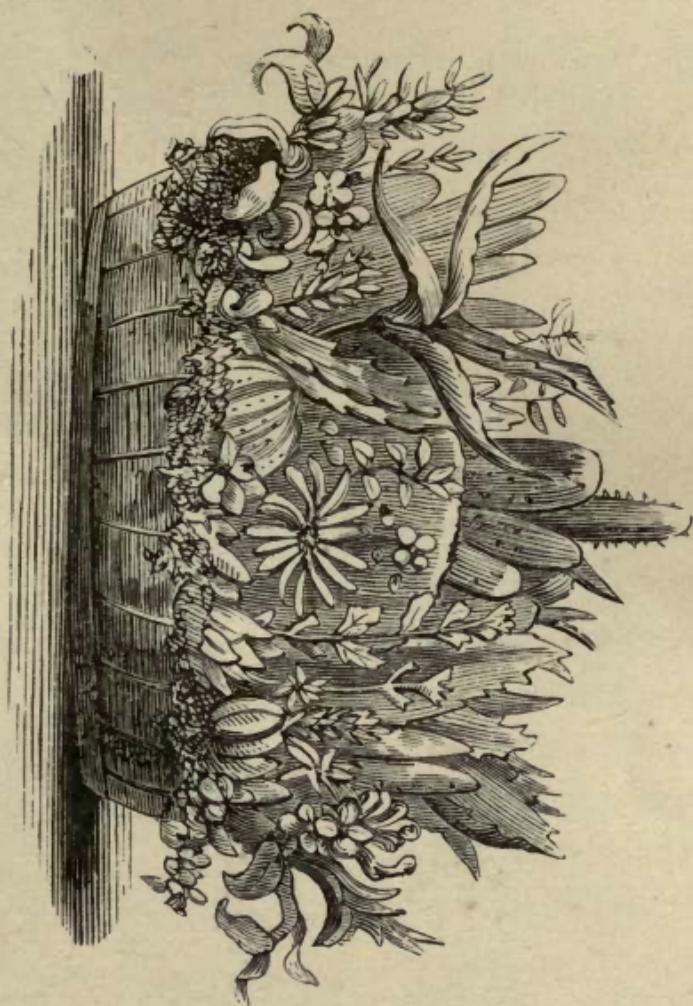
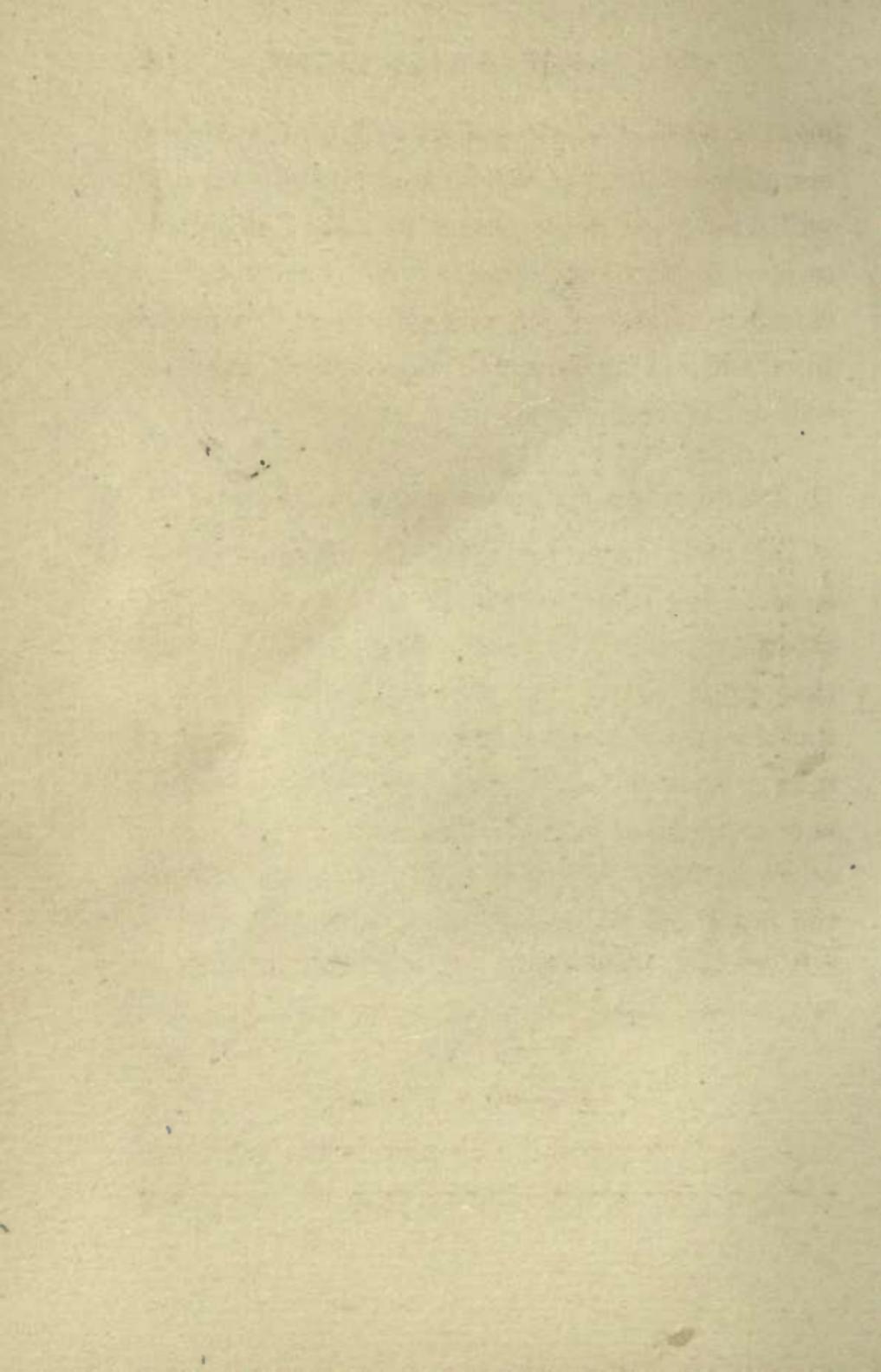


Fig. 3. — Parlor Flower-stand.



flowers while you can get them from the gardeners, agree with a gardener by profession, and he will keep your flower-stand furnished at all seasons with blooming plants. Your care will be confined to watering them and keeping them free from the dust. You will enjoy them; but they will not be your work.

#### Plants to cultivate on the Flower-stand.

You will do better than that, if, having the leisure, you have the will also, to give assiduous attention yourself to the cultivation of the plants that are to adorn your flower-stand. I imagine this to be the case — that you are disposed to take a little of that trouble which is a pleasure, and to make of your flower-stand a real garden of your own. We will begin, if you please, in the month of November — at the time when the fall of the leaves brings back to the cities those who have passed the fine season in the country.

#### Climbing Plants.

Choose a flower-stand as large as the space you have to give it will allow; keep it constantly

with one side against the wall, so that you can put into it a trellis, shaped like a fan. The first thing now to be done is to cover this trellis with climbing plants; they will not be the least interesting part of this miniature flower garden. Plant a passion-flower, as the principal ornament of this trellis; let it be as wide and as high as it may, the passion-flower will soon cover the greater part of it. You must add to this a somewhat rare plant, the *Mandevillea suaveolens*, and a very common plant, the wood pink. These three plants—the passion-flower, the *Mandevillea*, and the wood pink—bloom principally at the top; and that the whole trellis may be ornamented equally with flowers, plant at each end a *Thunbergia alata*, and in the middle a double violet.

The *Thunbergia* lays hold of any thing that is within its reach, without ever rising very high. It becomes covered with charming flowers, of a fine nankeen yellow, set off with a black spot in the middle. You find it, as well as the passion-flower and the *Mandevillea*, at all the green-houses. The price of these plants is never very high, and they accommodate themselves very well

to the artificial climate of an inhabited room. Take good care not to buy them in bloom, even though you should be able to get them in full flower; take them at most in the bud; it will be much more agreeable to make them bloom yourself.

### Climbing Double Violet.

Possibly you may never have seen a violet climbing on a trellis. The culture of the double violet in this form is very common in Belgium and in all the north of France. It is not difficult.

The double violet produces naturally, every year, a certain number of runners, like those by which the strawberry is propagated. Attach to the trellis those runners which are so situated as to be able to take hold of it easily, and destroy all the others. The tufts in which each runner terminates will flower abundantly in this position. After they have bloomed, other runners will come out, which you must attach to the trellis as you did the first; so arranging them as that they shall not take possession of the space reserved for the other climbing plants. By this system, continued

for some years, (time is necessary for every thing in horticulture,) the runners which have been raised and attached to the trellis will become nearly woody; and every year, from the end of winter to the middle of spring, you will be able to gather from them a profusion of forced double violets, whose fragrance for you will far surpass that of the violets forced by the gardener, and which he makes you a present of for your money.

#### Plants for the Middle Part of the Flower-stand.

The middle part of the flower-stand is yet empty. To fill it well, place in the centre a fine camellia; a *Donkolerii*; or, if rose color be a favorite of yours, a *marchioness of Exeter*; if you prefer white, an *alba flore plena*, a *fimbriata*, or an *ochroleuca*. There are at least five or six hundred kinds of camellias, with flowers very different from each other. Make what choice you please; only avoid taking for your flower-stand a plant that is inclined to grow too tall; it will injure the ornamental effect of the occupants of the trellis.

### Management of Camellias.

When you buy your camellia it should be full of buds that have attained to about half their size. If there are too many buds, above all, if there are two or three in a bunch close together, you must not hesitate to sacrifice a portion of them. But, as the very short stem by which the flower bud of the camellia is attached to the branch, is precisely the most delicate part of it, unless you observe great caution in detaching the superfluous ones, all will fall, one after the other, and you will not obtain a single flower. Happily, it is easy to avoid this annoying result. With a very sharp penknife, cut off, horizontally, the upper half of the buds which you do not wish to preserve, taking care to shake the plant as little as possible, and especially not to touch the bud stems. The remaining half of those buds will very soon fall of itself, without occasioning the fall of the entire buds. These will bloom perfectly a month or two later. Moreover, take care not to water your camellia with water that is too cold. This injunction is so important, that I am not afraid of

repeating it too often. Should its vegetation seem to you not vigorous enough, give to it, now and then, half a tumbler of the water that the dishes have been washed in. Frequently wash and wipe its leaves on both sides. Do all this, and it will bloom as beautifully in your flower-stand as if it had never quitted the greenhouse of the gardener who sold it to you.

#### Mignonette as a Tree.

Some pretty plants of *Erica* (cape heath) of the medium size varieties, and one or two pimeleas,—one with a white hanging flower, the other with a rose-colored, upright one,—will complete the filling of the flower-stand. Do not fail to reserve, at each end, a little place for a plant of mignonette as a tree. You have probably never seen mignonette otherwise than in the ordinary form of an herbaceous plant; and, as you do not live in the north of France, where these pretty shrubs are very much in fashion, it will be difficult for you to procure two tree mignonettes already formed. You must, therefore, form them for yourself. To do this, proceed as follows:

Buy a pot of ordinary mignonette. This pot will probably contain a tuft composed of many plants, produced from seeds. Pull up all but one; and, as the mignonette is one of the most rustic of plants, which may be treated without any delicacy, the single plant that is left in the middle of the pot may be rigorously trimmed, leaving only one shoot. This shoot you must attach to a slender stick of white osier. The extremity of this shoot will put forth a bunch of flower buds, that must be cut off entirely, leaving not a single bud. The stalk, in consequence of this treatment, will put out a multitude of young shoots, that must be allowed to develop freely until they are about three inches and a half long. Then select out of these, four, six, or eight, according to the strength of the plant, with equal spaces between them. Now, with a slender rod of white osier, or better, with a piece of whalebone, make a hoop, and attach your shoots to it, supported at the proper height. When they have grown two or three inches longer, and are going to bloom, support them by a second hoop, like the first. Let them

bloom; but take off the seed pods before they have time to form, or the plant may perish. It will not be long before new shoots will appear just below the places where the flowers were. From among these new shoots choose the one on each branch which is in the best situation to replace what you have nipped off. Little by little, the principal stalk, and also the branches, will become woody, and your mignonette will no longer be an herbaceous plant, except at its upper extremities, which will bloom all the year without interruption. It will be truly a tree mignonette, living for an indefinite period; for, with proper treatment, a tree mignonette will live from twelve to fifteen years. I have seen them in Holland double this age.

#### Resources that the Flower-stand offers.

Ornamented and managed as I have directed, your flower-stand will be a continual source of agreeable recreation. There will always be work about your plants. The pleasure of providing for their wants will be as agreeable to you as that of seeing them flower, one after another.

Their bloom will be the fruit of your own labor ; it will have been merited by the act of cultivating them. They will have for you a hundred times the value that the most beautiful plants would have which you bought, in bloom, from the gardener, and replaced by others without your having a hand in producing them.

Moreover, young ladies, besides the plants with which I have just advised you to adorn your flower-stand, you have an immense latitude and many resources—unlimited, we may say—in the many varieties of the different species of other plants, equally worthy of your care. As we shall, in the course of this treatise, when engaged upon the subject of multiplying and cultivating plants, have occasion to make special mention of those just referred to, this need not be done here. I shall take care to make you acquainted with such as would figure to advantage in the flower-stand of your apartment ; which, if its situation be favorable enough, may form a companion to the garden on the mantelpiece, in addition to the garden on the *étagère*.

And pray observe, mothers, — to you do I now

address myself, — that flowers are like children: in order to bring them up well, you must love them. If there be among you any who do not love flowers enough to bestow upon them the attentions that they require, neither the preceding counsels nor those of the following chapters will be intended for any such.

## CHAPTER V.

## THE PORTABLE GREENHOUSE.

Its Construction.—Plants that can be cultivated there.—Its Principal Utility.—Propagating Ornamental Plants.—Sowing.—Sowing of Azalea Seed.—Transplanting and Rearing the Young Plants.—The same as regards Rhododendron Seeds.—Sowing Orange Seeds.—Rearing the Plants.—Sowing the Seeds of Flemish Pinks.—Sowing of Ranunculus Seeds.—Separation of the Young Offsets.—Time of their First Flowering.

THE VARIETY of plants that may be cultivated in an apartment is greatly increased, when, instead of ornamenting the stand of the parlor with a large basket filled with an assortment of dwarf succulent plants, the same spot is devoted to a portable greenhouse. Greenhouses of this kind may, as well as flower-stands, be ornamented externally in any manner conformable to the style of the rest of the furniture. This point depends entirely on the taste and fortune of those who propose to make use of them.

### The Cold Portable Greenhouse.

The portable greenhouse may be cold ; that is, without any special means of warming it. It may also be tempered ; that is, furnished with an apparatus for producing artificial heat. Except for the size and the decoration, more or less elegant, it is nothing more than a great hand-glass,\* of which the panes of glass, supported on a light iron frame, are arranged by means of slips of lead. Many of the upper panes should be made to open by sliding, as well to let air into the interior, as

\* **HAND-GLASSES** — Portable frames or covers, formed of iron, zinc, or wood, and glazed. These glasses differ from bell-glasses in being longer and composed of numerous small pieces of glass, which are fastened together by narrow strips of lead. Hand-glasses are generally square; but they may be made of an octagon, or any other shape that may be found most convenient; and they are sometimes made with a pane to open to admit air, or with the upper part to take off. This is very convenient; for as hand-glasses are chiefly used for protecting half-hardy plants during winter, it is necessary to give them air every fine day, and it is very troublesome to be obliged to lift the hand-glass off the plant, and to lay it on one side, whenever this is done. Bell-glasses, on the contrary, being principally for preventing the evaporation of moisture from the leaves of cuttings, do not require any opening, as the plants seldom want any air till they have rooted.— *Mrs. Loudon's Ladies' Companion for the Flower Garden.*

that you may be able to tend and cultivate the plants within.

A multitude of interesting experiments in horticulture may be made, and charming results obtained, in the small space contained within a cold portable greenhouse. Its pots, none of them exceeding the medium size, may contain a complete assortment of the finest plants that are found in greenhouses, — not only in such as are not, but in such as are, warmed by artificial means. If the portable greenhouse has not a special apparatus for warming it, it must be placed in a room where people habitually sit, of which it must necessarily take the temperature; and this temperature is pretty nearly that of the artificially warmed greenhouse.

#### Principal Utility of the Cold Portable Greenhouse.

It is quite probable, ladies, that many of your familiar acquaintance are, like yourself, fond of parlor gardening. If you possess a cold portable greenhouse, you may, if you please, multiply indefinitely the choicest ornamental plants; and,

after having reserved for yourself the quantity necessary for keeping up your own stock, there will remain a large supply, which will afford you the means of contributing to the enjoyment of your friends by furnishing them with plants.

We must first fill the pots with good sandy heath soil,\* and then we can proceed with our work at our ease. Nothing is more agreeable, whether we keep the products or give them away, than to see them arrive at a presentable degree of development.

For the purpose of propagation you have three methods at your option: by *sowing*, by *slips*, and by *grafting*. Neither of these is difficult in itself; attention and a great deal of patience are the only requisites to success in all three.

### Sowing.

The list of ornamental plants which can be propagated in pots in the portable greenhouse is very long, even if we limit ourselves to gardening in the house alone. We will select from among those most worthy of attention; and their propa-

\* Peat mixed with sand.

gation by seeds will give a just idea of how you should proceed with any others that you may have a fancy for.

### Sowing of Azalea Seed.

Let us begin with azaleas. Procure seeds of the most admired variety; they will not always produce a shrub exactly like that from which the seeds were gathered. But so much the better. When your young plants bloom for the first time, you will be agreeably surprised to find remarkable novelties, either in the larger size of the corolla or in the brilliancy or delicacy of the colors. Those whose bloom does not seem to you satisfactory — and this will be the smaller number — can be made use of as stocks to receive the grafts of such varieties as you may prefer. Take care not to cover the azalea seed with more than the eighth of an inch of earth, which you must keep constantly damp, without excess of moisture, by watering often and giving very little water at a time. In your portable greenhouse the pots containing the azalea seeds come in contact only with air loaded with moisture, which being seldom changed,

scarcely any evaporation takes place; whilst, the temperature there being mild and very equable, the conditions are the best possible for obtaining a good germination of the seeds. Each pot having received but a small number of seeds, the young azaleas will sprout at their ease, without crowding one another. As soon as they have acquired consistence enough to bear transplanting, pull them up, one by one, and plant them singly in little pots, where they will continue to grow until they have become too large to remain in the portable greenhouse. Then take your share, and distribute the rest; it is a sort of present that cannot fail to be acceptable.

The seeds of rhododendrons are sowed exactly in the same manner as the seeds of azaleas, and with the same results.

#### Sowing of Orange Seeds.

Among the shrubs that are easily propagated by seeds in the portable greenhouse is the orange. Sow, for this purpose, seeds of very ripe oranges or lemons; these last are most easily reared. Instead of pure heath soil, these seeds require a

mixture of heath soil and good manure. By those who carry on gardening as a trade, the pots in which orange and lemon seed are sown are buried in a hotbed, covered with a glazed frame; but this is because they are in haste: for them, to gain time is to gain money. You, ladies, who are not under the empire of the same necessities, by sowing your seeds in February, a time\* of the year when there is fire in your apartment, will have the temperature of the interior of your portable greenhouse sufficiently high for them to come up in fifteen or twenty days. Your young trees will be much better off under the shelter of your portable greenhouse than any where else; air or light in excess would hurt them during the first period of their growth. You will have the pleasure of seeing them grow fast enough if you water them moderately. Towards the month of July they will already be strong; the panes of the greenhouse ought frequently to be kept open, to habituate the young orange trees to contact with the air. Some of them can be grafted towards the first of November; the others in the spring of the following year; and when you see the first

flowers open, this will give you more pleasure than all the orange flowers that could be brought to you.

#### Sowings of Flemish Pink Seed.

Side by side with your sowings of azaleas, rhododendrons, and orange, sow seeds of Flemish pinks~~s~~ in the same mixture of heath soil and manure that I have directed as the most suitable for oranges and lemons. Transplanted when an inch or two high, the plants will, the ensuing year, bear the choicest pinks, and these will be among the finest ornaments of your garden.

#### Sowings of Ranunculus Seed.

Sow also ranunculus seeds. This flower is a charming one — faultless in both form and color; nothing is wanting in it but perfume; and for chamber gardening this is scarcely a defect. For the sowings of ranunculus seeds, procure a little cowdung, very dry and reduced to powder. After having slightly wet this manure, sow the seeds, with but a very shallow covering. They will come up in a few days. When you see the lit-

tle leaves of the seedling wither and turn yellow, cease altogether to water them. A few days afterwards, when the contents of the pots are perfectly dry, take the pots out of the cold portable greenhouse; crumble these contents carefully, and pass them through a tin colander with very small holes. There will remain in the colander little plants of ranunculus, each one not more than an inch or two long.

You are afraid, perhaps, ladies, that these so very delicate plants will make you wait a long time for their bloom. You are mistaken. When spring sets in, plant them in pots of the common size, in a mixture of good ordinary garden earth and manure; they will all bloom before the end of the warm weather.

You see how many things you can accomplish in horticulture, under the cold portable greenhouse, with nothing more than sowings. Slips offer you pleasures not less varied. Grafting, which your taper fingers, habituated to delicate work, can execute to such perfection, will add to your stock of enjoyments. You will after some time—not a long one—have around you

a whole generation of ornamental plants, full of vitality, that your care will have brought into life, and your solicitude will have made to prosper. It will end in your becoming attached to all these charming vegetable productions, as to so many friends of your own creation.

## CHAPTER VI.

SLIPS IN THE PORTABLE GREENHOUSE—  
COLD OR HOT.

Art of sticking Slips.—How the Slips take Root.—Slips in the Cold Portable Greenhouse.—Slips of Dwarf Succulent Plants.—What is necessary to make them take Root.—Slips from Leaves and Fragments of Leaves.—Slips of Begonias.—Slips of Dwarf Bengal Roses.—Of China Roses.—Of Pelargoniums.—Of Indian Chrysanthemums.—Slips in the Hot Portable Greenhouse.—How this Greenhouse is constructed.—Slips of Camellias destined to be Grafted.

## Art of Sticking Slips.

THE prodigious multiplicity of resources contrived by Nature for the propagation of plants is assuredly one of the most curious of all the facts revealed by the study of vegetable physiology. Life is disseminated with such profusion in all the parts of plants, that with many of them the least fragment placed in favorable circumstances becomes a complete plant. The art of rearing from slips rests upon the knowl-

edge of facts of this nature. If it has never happened to you to stick any, or to see any stuck, I will inform you that a slip is a part of a plant detached from the mother plant and put in the earth, in the hope that it will be able to take root there.

- What is necessary to make a slip take root? It is necessary for it to live long enough on its own vital energy for young roots to form, and to draw nourishment from the soil. When the tissue of the plant is soft, and contains a good deal of water, and when the branch that is detached to serve as a slip remains exposed to the air, the slip will not take root; it dries too rapidly; the operation fails. On the contrary, roots always form when, by the exclusion of the external air, evaporation is abated; whilst, at the same time, the lower part of the slip is in a medium kept constantly moist, which solicits its taking root.

#### Slips in the Cold Portable Greenhouse.

Already, from what I have said, ladies, you have a glimpse of the utility that your cold



Fig. 4.—Cold Portable Greenhouse.

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portable greenhouse will possess for propagating every kind of plant by slips. We may begin by your pretty dwarf succulent plants, detached fragments of which will, under the shelter which it affords, take root with marvellous docility. Take, for example, a charming opuntia, and separate one of its little shoots, by cutting it at the base with a very sharp penknife. If you put this shoot in the earth as a slip at the moment that you cut it, the surface of the wound in contact with the earth will rot, and not a root will come forth. To be successful, you must lay the slip on one of the shelves of your *étagère*, and leave it for two or three days, that the wound may begin to scar over before it is planted; when this takes place, plant it as if it had roots — and indeed it will not be long before it has them. To assure yourself of this, you need not pull it up, as children do, who, when they have put a bean in the earth, take it up once or twice a day to see if it is going to sprout — so that it never comes up. So soon as your slip has taken possession of the earth with its young roots, it will not fail to advise you of it by giving birth to

little shoots at the upper part. The growing of the upper part of any plant whatever, propagated by slips, is the most certain sign of the existence of young roots. All the dwarf succulent plants of the garden on the *étagère* can, like the *opuntia*, be propagated by slips, in the cold portable greenhouse; only taking care that the part separated as a slip be allowed to dry and begin to form a scab by contact with the air before planting it.

#### Slips from Leaves.

If you have renewed the contents of your flower-stand every season, you will have at the proper time *achimenes* in bloom. This pretty plant is easily cultivated; and its numerous tubulated flowers, nearly the same in form with those of the *paulownia*, are in color of a beautiful light violet, or of a fiery red, regularly marked with yellow and purple within. Take off a leaf of *achimenes* and stick it by its stem; it will take root, and this single leaf will in a short time become a perfect plant, similar to the one from which it was detached. But if the species that

you desire to propagate by this means is rare, and you possess but one leaf, for which you are indebted to the kindness of an amateur, split this leaf down through the principal rib; split afterwards the two halves in four or five pieces, through the side ribs; and these fragments, treated as slips, will not fail to take root. But, as this plant is of very loose tissue, and evaporation might cause the slips to perish in a few days, even in your cold greenhouse, you will act prudently if, besides the shelter which it affords, you cover them separately, each with a small glass turned upside down.

#### Slips of Begonia.

Another genus of plants, not less agreeable, the genus *Begonia*, is propagated by slips of leaves in a manner somewhat different. The stems of the leaves of begonias are of a cylindrical form; those of the *begonia manicata*, or cuffed begonia, are ornamented with an elegant fringe for about one half of their length. If you stick one of these leaves in your portable greenhouse, do not be frightened, if, after the lapse of some days, the

entire leaf fades and then draws up as if it had been shrivelled by a violent sun-stroke; the vegetable life has withdrawn into the stem; the operation has not been necessarily unsuccessful. When the leaf is dry, take the stem out of the earth; it will not yet have roots, properly speaking, but all around its lower edge you will distinguish little swellings composing a sort of roll, tolerably prominent: these are the rudiments of the roots ready to come out. This leaf-stem, although hollow within, is thick and fleshy. Split it into five or six slips, down its length; and each of these slips, provided it has at its base a portion of that little roll from which the roots are to come out, will become, in a short time, a fine plant of *begonia manicata*. Just as many pieces as you have been able to split that stem into, just so many thriving slips will you have; all will take root.

An indefinite variety of plants, as well those generally found only in warmed greenhouses as those which are seen in others, can be thus propagated. It will be for you an inexhaustible source of recreation, and at the same time a precious

resourcee from which to renew the contents of the flower-stand and *étagère*, at all seasons.

### Rose Slips.

To the above you can add a large collection of roses of diminutive size, selected from the series of Bengalese and Chinese roses ; the Lilliputian Bengals, which are reared in a pot of the size of an egg-cup ; the Chinese dwarfs, of a bright red, which live very well in a tumbler of the ordinary size. The least fragment of a branch of one of these, stuck in the cold portable greenhouse, will take root and display its flowers the first year.

### Slips of Pelargoniums and Chrysanthemums.

Do not forget to stick also a full supply of the prettiest species of fancy pelargoniums and chrysanthemums of India ; especially pompone\* chrysanthemums, charming little plants, very prolific in flowers. They bloom all the winter, and present, we may say, with the exception of pure

\* From the word *pompon*, the worsted ornament worn in soldiers' caps, in lieu of feathers.

blue, all the shades of the rainbow, and, in addition to these, the purest white, and a deep purple, so deep as to be almost black.

These chrysanthemums possess, as regards slips, a peculiar property, worthy of your attention; they furnish slips at all the various stages of their vegetation. Of such kinds as accord, in their natural dimensions, with the space that you have reserved for them, take, for sticking, young shoots between one and two inches in length. These slips will quickly take root, and in due time attain the normal size of their species; after which they will bloom. On the other hand, if you wish to stick some whose dimensions greatly exceed the space that can be disposed of in their favor, wait until the flower buds terminating the upper extremities of branches have attained about half of their size. Then detach such branches for slips, and plant them in pots, where they will very soon take root; their buds will continue to develop, and you will obtain as fine a bloom as that which remains on the entire plant. These slips, however, will not grow; they remain of the same size as when first planted.



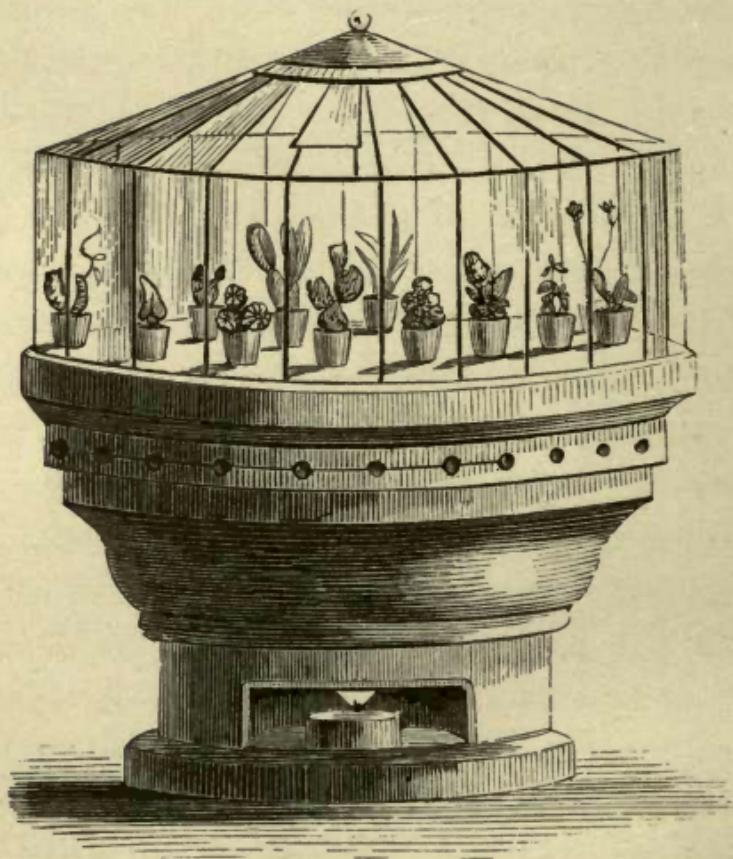


Fig. 5.—Warm Portable Greenhouse.

### Slips in the Warm Portable Greenhouse.

Until now, ladies, I have spoken to you of such slips only as can be reared with success in the cold portable greenhouse. But you may rear a great many more, and these taken from the most interesting plants, if, for your cold greenhouse a warm one be substituted.

To say nothing of form, which may vary according to taste, the essential difference between these two portable greenhouses consists in one of them being warmed at will; to which purpose its shape and construction must, of course, be adapted. It must contain a lamp and a little reservoir for water; this reservoir having an earthen-ware cover, upon which the pots with the slips are placed. This cover is pierced with a hole, into which a funnel may be placed, for the purpose of renewing the water as it evaporates; and there must be lateral holes in the reservoir, for the steam to escape through. Underneath this apparatus is the place for the lamp,—generally a spirit lamp,—which is lighted only when you wish to raise the temperature of the

greenhouse. Although the heat produced by the flame of the lamp is not very great, it suffices to warm the water in the reservoir, and the other contents of the greenhouse, to the degree requisite for maintaining its atmosphere at the proper temperature—say at from fifty-three to sixty-four degrees of the thermometer.

### Slips of Camellias.

Provided with this addition to your resources, you may now add greatly to the variety of your floral decorations, and, whilst doing this, enjoy the pleasure of watching the growth of plants which refuse to take root in the cold greenhouse, but prove perfectly conformable to your wishes in this respect when provided with lodgings better suited to their tastes.

Let us begin by sticking slips of camellia there. This king of the shrubs of the cold greenhouse experiences great difficulty in making his start in life there. The labor of striking root proves generally too great for his vital powers, unless aided by artificial heat. Thus aided, however, as they now are in your warm portable greenhouse, these

slips will form their roots in the space of from fifteen to twenty days.

You are already aware, ladies, that the most beautiful varieties of the camellia, although they can take root from the slips, produce, by this means of propagating them, only ill-shaped, puny plants, that are little disposed to flower well. Your slips should be taken only from single-flowered camellias; or, if from the double-flowered, then the white or the pink only. From these you can obtain all the slips you need; and these slips will become shrubs as vigorous as you can desire. By grafting on these shrubs, when a year or eighteen months old, you may multiply the choicest species and varieties; their bloom will be all that you can wish.

Grafting is another charming operation of horticulture, which you could not easily realize in the cold portable conservatory. In the warm one, on the contrary, you may graft all sorts of ornamental shrubs, and the success of your grafts is assured beforehand; not one will fail.

## CHAPTER VII.

## GRAFTS IN THE PORTABLE GREENHOUSE.

Of Grafting in general. — Resources that it offers for fixing the Fugitive Sub-varieties. — Extent to which Grafting is possible. — Tomatoes upon Potatoes. — Rice upon Phalaris. — Orange Graft. — Manner of Operating. — Wrappings of Woollen Yarn. — Applications of the above Process. — Pontoise Graft. — Grafting the Camellia. — The Camellia in its Native Country.

## Of Grafts in general.

BEFORE learning how to perform the different modes of grafting which belong to the domain of parlor horticulture, you may, perhaps, ladies, wish to be informed what grafting itself is, considered in a general point of view. Grafting, then, is, if I may be permitted to use the expression, a forced marriage, often very badly assorted. Of this particular kind of forced marriage, the consequences cannot be happy, except when the two individuals, united without having been consulted, are very near relations ; that is to

say, when they belong to species or varieties very proximate to each other. In the portable green-house, both cold and warm, we have just been practising, with complete success, the operation called *slipping*, in a variety of ways. Well, then, *grafting* is still another kind of slipping. Instead of putting the slip in the earth, that it may there live by its own roots, we join it on to another plant, where a piece has been cut away to make room for it. Then, instead of putting out roots of its own, that it may draw from the earth the sustenance which it requires, the graft incorporates itself with the plant to which it has been attached, and feeds upon the stores provided by the latter for its own support. This it does without changing its own nature, or modifying in any way that of the other. You may have remarked this in gardens. If a plum stock, upon which an apricot has been grafted, puts out young shoots below the graft, these are plum shoots. In like manner, a sweetbrier stock with a rose grafted on it, produces only branches of sweetbrier, exactly such as they would have been had the plant never been grafted upon. On the other

hand, the graft, and all produced by it, retains the nature of its parent plant as perfectly unchanged as if it had continued to form part of it. Owing to this law, results the most curious and precious are easily obtained in horticulture. Varieties, and fugitive sub-varieties, which it is impossible to reproduce by sowing, difficult even to preserve by slips, are fixed and propagated indefinitely.

#### Survey of Grafts that are possible.

That I may not have to repeat, I will remark now, ladies, that the domain of grafting, the extent to which successful grafting is possible, is very great; so great that it has not yet been completely explored. You know, as every body does, that fruit trees and roses are grafted. I am going to have the pleasure of making you graft, in your portable greenhouse, oranges and camellias, wherewith to furnish your balcony garden when it shall come to be established. I am going also to make you plant a simple and modest potato in a box, that you may have the pleasure of grafting on its stalks shoots of tomatoes.

Yes, shoots that will bloom and produce their fruit, while the vegetation of the potato is running its career and continuing to form its tubers. On closing the account, you will gather potatoes enough for a dish, and tomatoes enough to make a sauce for the beef stew, to be served with the potatoes. I will lay a wager, madam, that this tomato sauce will have a more exquisite flavor for your palate than any your cook ever prepared before, let her be the very best of all possible cooks.

When you procure an aquarium, you may cultivate rice in it, which will come to perfect maturity. You must graft shoots of this rice upon seeds of the species *phalaris*; and you will see that they will not grow the less healthily, nor form their ears the less perfectly for being grafts. I tell you all this beforehand, in order that you may at once form an idea of what it may be possible to accomplish by grafting, even when restricted to the narrow limits of horticulture in the parlor.

### Orange Grafts.

Here are the young stocks, the product of the orange and lemon seeds sown by you a year ago. They are the size of a quill; their wood has consistence, their vegetation is vigorous; it is time to graft on them. Let us take for grafts young shoots of a myrtle-leaved China orange—one of the prettiest varieties to cultivate in an apartment, whether on account of its numerous flowers, which are fragrant, but not too strongly so, or on account of the fruits that succeed these flowers, and which, preserved in sugar or in brandy, are a favorite treat for a numerous class of consumers.

About half way up the stock, you make choice of a leaf very green and well formed; at the fork of this leaf—that is to say, at the point where it connects with the stalk—there is an eye, which eye, if left there, would produce a side branch.

With a newly-sharpened penknife, cut a little way into the wood, above and below the eye, making these cuts slanting, so that a small portion of the stalk, containing that eye, shall be sep-

arated and fall, without the leaf being detached. Now you have a cutting, the size and form of which you must examine with care. This being done, you must then, for the graft that is to occupy the vacancy just made by you, select a little branch of myrtle-leaved orange, and the lower end of this must be cut into such shape as to fit very exactly into the place cut in the stock. As the graft, if left there after being fitted, would fall apart at the least shake, it requires to be fastened in its place, until it shall have taken firm hold and incorporated itself with the stock. This is effected by putting a bandage on. But here a difficulty presents itself, which has caused many a failure, but may, however, easily be surmounted by a little attention. If you do not draw the bandage tight enough, it will not hold the two surfaces in contact, and this would prevent the success of the operation. If, on the other hand, you draw it too tight, this will interfere with the circulation of the sap ; your graft will be strangled, as the gardeners say. Take care, then, to adjust your bandage perfectly — avoiding both extremes ; tight enough, but only just tight

enough, to keep the graft firmly in its place. Employ for this purpose untwisted woollen thread, which, in case you have drawn it somewhat too tight, will, from its elasticity, accommodate itself to what the sap requires, and prevent strangling.

#### Applications of the above Method of Grafting.

All graftings of this sort that can be made on other shrubs with persistent leaves, besides orange trees, and especially upon daphnes and myrtles, will prove completely successful, provided that at the time you graft them these shrubs are in full sap — that is, that their vegetation is in full activity. Strictly speaking, in ornamental shrubs with persistent leaves, the sap is never completely stationary, as it is in winter with those that lose their leaves. They have, however, a half repose in winter; after which their sap begins to flow again with renewed energy. This is the most favorable time for grafting them.

#### Grafting a la Pontoise.

As to the orange, its vital principle is so very active that you can, without fear, trust a graft



Fig. 6.—Graft à la Pontoise.



quite full of flower buds ready to bloom, to a seedling stock a year or eighteen months old. The graft should be of a diameter nearly equal to that of the stock; it will take directly. The course of the sap is not sensibly interrupted, and the buds will open as if they had remained upon the shrub from which they were detached. In all cases, the entire stock above the graft should be removed, so that the portion of the stock below the graft shall form merely the lower part of the trunk of the tree, whilst all above shall be formed from the graft exclusively. If this sort of grafting, named by the French gardeners *grafting à la pontoise*, were conducted in the open air, the evaporation from the leaves would kill the graft before it took. It can succeed only when excluded from contact with the air. Your orange trees grafted in this manner will be perfectly sheltered under the glass of your portable greenhouse; which you must take care to keep close shut, until your grafts, by continuing to grow, give you assurance that they have taken.

### Grafting Camellias.

Now, ladies, that you know how to graft orange trees, you can, without further teaching, graft the single camellias that you have multiplied by slips ; the proceeding is exactly the same. You must not, however, take for grafts — as you did for the orange — branches bearing flower buds ; the flower buds would not bloom, and the flower-bearing branches would with difficulty be made to grow to the stock. You also already know that the bud of the camellia only takes with certainty in the warm greenhouse ; unaided by artificial heat, the sap of the camellia, much less active than that of the orange, would not suffice to assure the success of the grafting.

Moreover, I would have you remark, ladies, that grafting offers you infinite resources for rejuvenating old camellias that have gone out of fashion. Graft upon their boughs, whatever their age may be, young shoots of camellia, of the kind that may be most in fashion at the time. Camellias, like yourselves, are subject to the caprices of fashion. These grafts will always take ; the

camellia in its native country being a sturdy tree, of a very robust temperament, which it partly preserves in the conservatories of Europe and America. If it should ever happen to you to make a pleasure trip to Japan,—it might so happen to any body,—you would see that, although the camellia is a sacred tree, which they plant round the temples, while its flowers are used in making garlands for religious festivals, they treat it in other respects with but little ceremony. You would see entire woods of them, of great extent, where every camellia is trimmed up to a single stem, as straight as a hop-pole. Do you know what they do when these camellias are of an age to be cut down? They make of them, ladies, simply handles for brooms, or spades, or other utensils; they are intended for nothing else.

Do not expect, in going to Japan, the country of the camellia, to see this charming shrub such as you see it here. The Japanese gardeners do not trouble themselves much in bringing it to perfection. Your camellias, that you have reared from slips and grafted with your own hands, might serve as models to those that figure in the gardens of the Emperor of Japan.

## CHAPTER VIII.

## THE HOUSE AQUARIUM.

Aquariums.—Travelling Botanists.—The Victoria Regia.—The House Aquarium.—Its Construction.—What causes the Corruption of Stagnant Water.—Means of avoiding it in the House Aquarium.—The Cobbler.—Interesting Habits of this Fish.—Aquatic Plants for the Aquarium.—Hydrocharis.—Pontederia.—Mimosa Pudica, or Aquatic Sensitive Plant.—Rice grafted upon Phalaris.—Manner of grafting it.—Aquatic Ranunculus.—Its Manner of Vegetation.

The Aquarium.

ALL OF you, ladies, are acquainted with aquaria; most of you have little ones of your own, got up without expense, and I do not propose to you to attempt having them on the grand scale that Mr. Ysabeau describes. His description, however, is so interesting, that I will not omit it. He says, — speaking of large gardens, — that an aquarium is a conservatory, of a square or oval form, with a ridged roof, the interior of which encloses a basin in which ornamental aquatic

plants are cultivated. You exclaim at this word, and stop me short by observing that the culture of aquatic plants is beyond the powers of the parlor gardener. If this be your opinion, ladies, permit me to say, that you are under a great mistake, and I shall endeavor to convince you of it. But let me first inform you, a little more in detail, what an aquarium is.

There exists among the learned men a class, essentially adventurous, who have a horror of the fireside, security, and repose. These are the travelling botanists; men who are always on the road, (when they happen to be in a country where there are roads,) to discover vegetable rarities and novelties. I have had occasion to call your attention to them in speaking of dwarf succulent plants of the cactus family. Among the novelties with which these indefatigable seekers have been enriching our collections for some years past, are found quite a large number of aquatic plants from the tropical regions. Among these is the great nenuphar of the River of the Amazons, the *Victoria regia* — true queen of the tropical waters.

So long as the number of hothouse aquatic

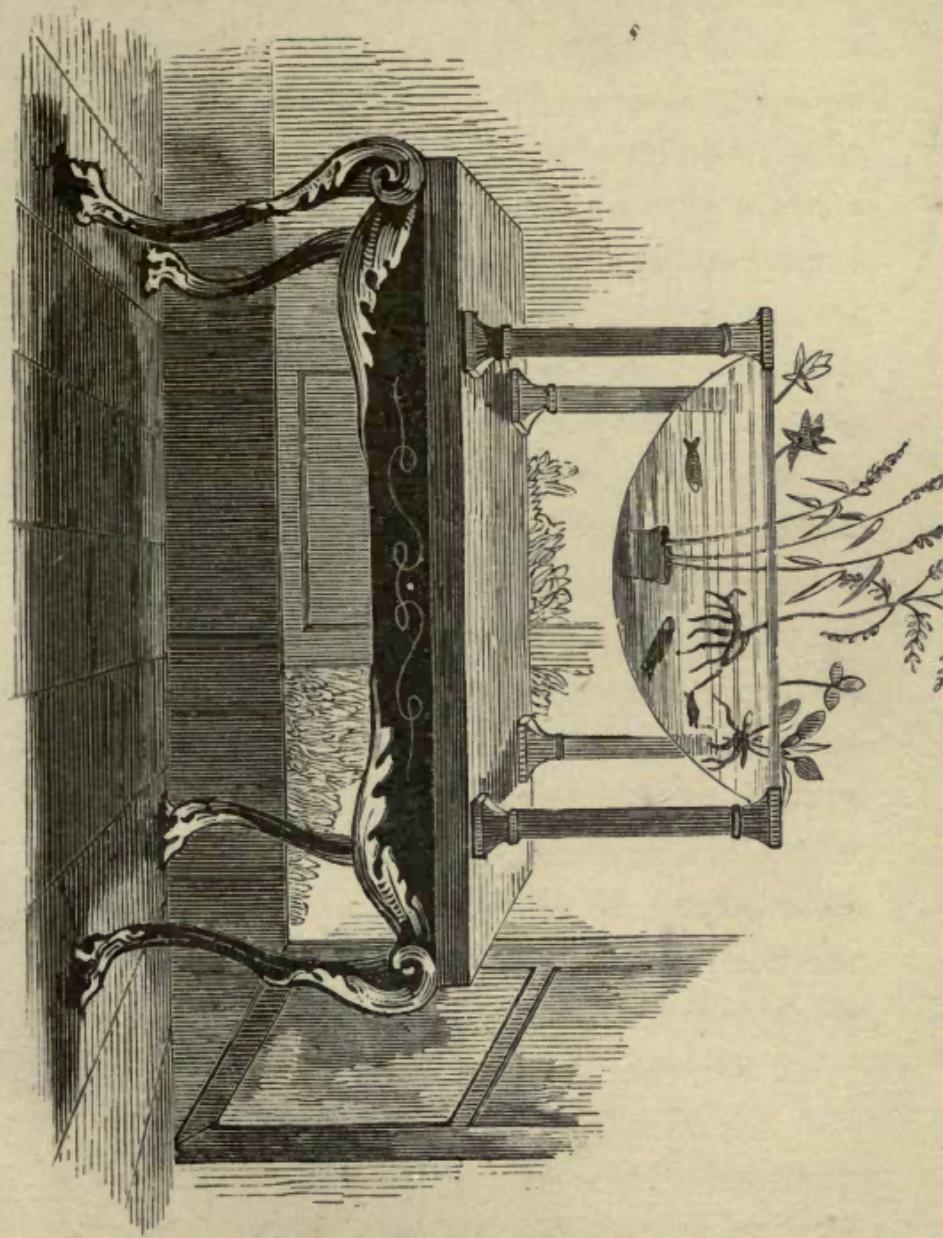
plants was not too great, people contented themselves with lodging them in the reservoir where the water destined for watering was kept. But when the *Victoria regia* arrived in Europe, the leaves of which, unfolded upon the tranquil waters, measured more than a yard in diameter, the botanists perceived the propriety of lodging it and other beautiful tropical aquatic plants of large dimensions, conformably to their rank, in basins of tepid water, within hothouses, which are, at present, very numerous in Europe, and are designated under the name of *aquariums*.

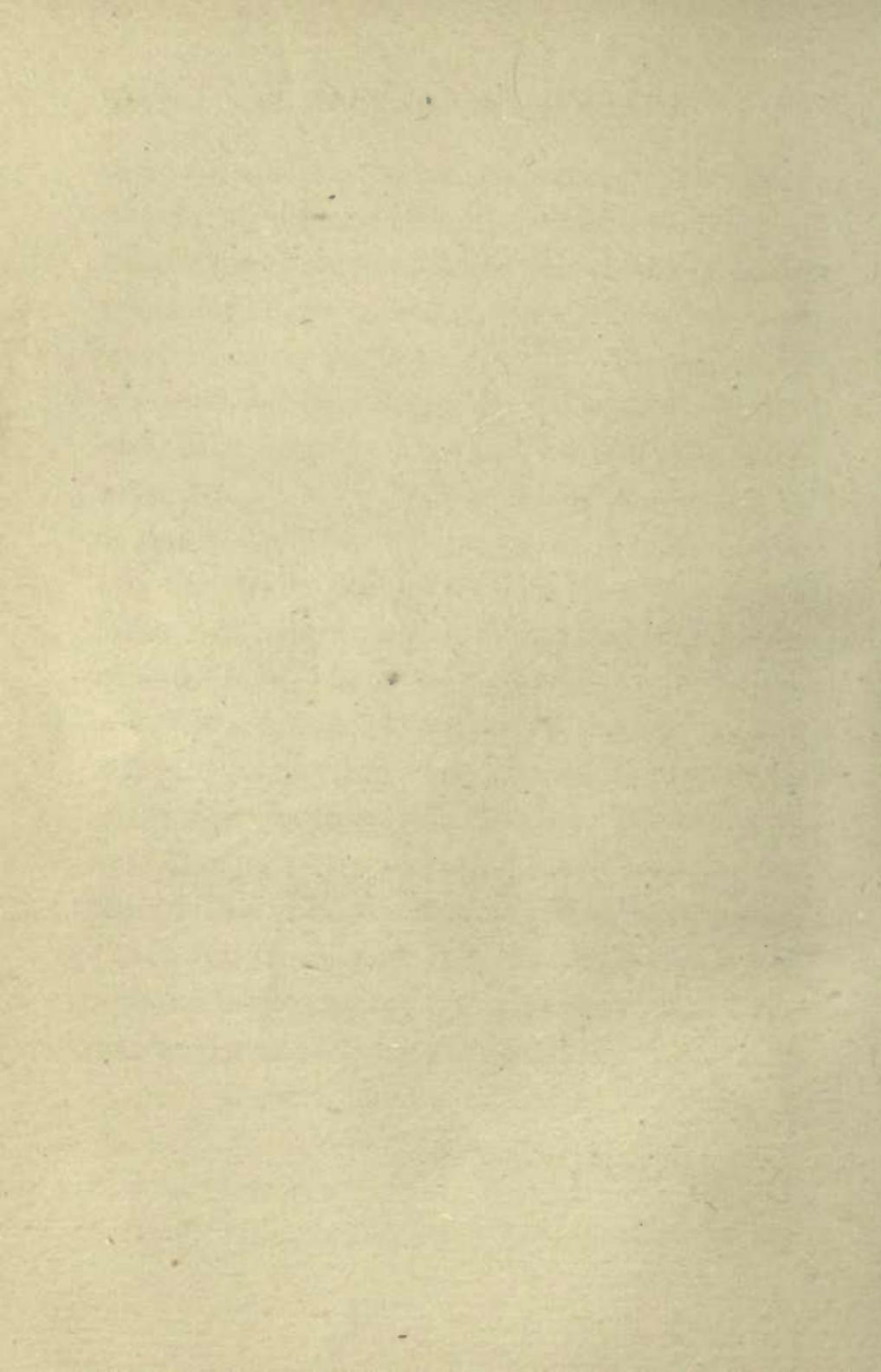
You understand, ladies, that this preamble is not at all designed to pave the way to counselling you to convert your parlor into a basin; which, by the help of a thermo-siphon, being kept at the temperature of the waters of the River of the Amazons, you might have the satisfaction of seeing grow and bloom there the *Victoria regia*. I am going to propose something less impracticable.

#### House Aquarium.

The house which you occupy is one into which water is brought. You have a parlor on the

Fig. 7.—Parlor Aquarium.





ground floor, and a vaulted cellar under this parlor. These circumstances permit you to have a house aquarium, of which it is now my business to show you the advantages in regard to parlor horticulture.

In the middle of your parlor you must place a table, with four legs, in the form of columns, two of which legs must be hollow, and have pipes within them; one to receive the water when it comes, and the other to conduct it off. In the middle of this table, an elegant glass basin, thick enough to be strong, must be supported by four hollow columns of polished brass, similar to those which sustain the beam of a pair of scales. The pipe enclosed in one of the legs of the table must be prolonged through one of these columns, and a swan's beak at the top of the column will pour a continued stream of water into the basin, which water will escape by an opening of a suitable diameter, contrived for the purpose, in one of the columns at the opposite side of the basin.

**Fish that ought to be put in it.**

Before speaking to you of the plants that the water of your aquarium can nourish, and of the culture of these plants, I will answer an objection which naturally presents itself here: the water of your basin, you will say, although renewed by a continued stream, cannot fail to be corrupted, and to fill your house with a marshy smell, which will be as disagreeable as unhealthy.

Here is another mistake; and so you will acknowledge, if you permit me to give you some words of explanation on the subject of stagnant water. When water exhales an odor of putridity, it is not the water itself that is corrupted; it is the animal matter which it holds in suspension; it is, above all, the thousands of animalcula which are born, live, multiply, and die there with a prodigious rapidity, and of which water, to all appearance most pure, contains hordes without number. But, if you place in the aquarium living fish, they will nourish themselves with these animalcula as well as with the animal and vegetable matter held in suspension in the

water; and that of the aquarium will never exhale the odor of stagnant water.

If you do not like one fish better than another, and have no preference for the gold fish of China, who are in possession of the privilege of constantly peopling the basins, I would advise you, ladies, to adopt the pretty little fish named by the naturalists *epinoche*, and well known under its vulgar name of *cobbler*, because of the point, in the shape of an awl, with which its back is armed. The manners of this fish, that you can study at leisure through the transparent walls of your aquarium, are very interesting. It alone, among all the known fish, makes a nest, which it does out of the refuse parts of the aquatic plants, and in this nest the female deposits her eggs. Both male and female, after the eggs are hatched, take assiduous care of the young family.

#### Plants to put in the Aquarium.

Pardon an old professor of natural history, ladies, for this short excursion into the domains of ichthyology. I have wandered from parlor gardening; I hasten back as quickly as I can.

There is a crowd of charming plants among which you may choose to fill the water of your aquarium, such as the hydrocharis, pontederia,\* and many others. One word only upon those most worthy of attention. You are, doubtless, acquainted with the sensitive plant, or mimosa pudica, the leaflets of which withdraw and contract when they are touched. There exists an aquatic species of this, which you can have floating upon the parlor aquarium, for it is very small. Its leaflets are exactly similar to those of the terrestrial sensitive, and possess the same retractile properties.

#### Manner of grafting Rice.

If you put at the bottom of your aquarium a pot filled with good earth, where you have sowed some grains of rice which have not had the husk taken off, they will come up; and you can have the pleasure of grafting the plants from these seeds upon reeds. For this purpose you must cut, by a slanting cut at one of its joints, a rice

\* Frog-bit—a pretty little British water-plant with white flowers.—Mrs. Loudon's *Ladies' Companion for the Flower Garden*.

straw having its ear half developed; then, in a contrary slant, cut a joint of the phalaris reed, which is to be the stock of your graft, and fit one to the other, wrapping them with a thread of very fine woollen yarn. The whole, for greater security, must be attached to a rod for a support. You will thus see the rice stalk, nourished by the phalaris, ripen its grain as well as that which is not grafted.

There is a little plant, the aquatic ranunculus, common in all our streams, which, if you follow my advice, you will admit into the society of the rarest plants. What recommends it is its peculiar mode of vegetation. After springing from the seed at the bottom of the basin, the stalk, as it progresses in its growth, puts forth, in place of leaves, elegant filaments of a fine, pale green; and this continues to be the case until it has become long enough to reach the surface of the water, and come in contact with the air. Then, as if transformed suddenly into a different plant, its whole appearance changes; no more filaments to be seen; they have become metamorphosed into leaves cut in segments, which lie floating upon

the tranquil water, and amidst which rise the floral stalks, bearing little single flowers — white, with a yellow mark at the base of each petal. Common as it is, the aquatic ranunculus may, with its European physiognomy, hold its place very well in the midst of the most beautiful aquatic plants of foreign origin.\*

Take notice, I beg you, ladies, that I do not in

\* Description of the water ranunculus in America by Dr. Darlington, of West Chester, Pa., in his *Flora Cestrica* :—

“ *Ranunculus*, Linn., (Latin *rana*, a frog, the plant often growing where frogs abound.)

“ *Ranunculus aquatilis*, Linn., water ranunculus; *Vulgo*, river crowfoot.

“ Root perennial. Stems numerous from the root, procumbently floating, nine to eighteen inches long, very slender, smooth, jointed, branching, and usually throwing out a couple of filiform roots at the joints. Leaves alternate, one at each joint, . . . segments half an inch to an inch long. . . . Petals white or ochroleucous, yellow at base. . . .

“ Habitat, flowing waters; Brandywine, frequent. Flowers June to August.

“ *Observation*. — I have often found this plant entirely submersed (and usually in swift-running water) so deep that the flowers certainly never reached the surface. Professor De Candolle enumerates five varieties of this species, four of which Professor Hooker gives as natives of British America; but I have only met with the present one in this county, (Chester County, Pa.)”

any way pretend that there is no objection to a house aquarium ; it costs a good deal, and causes derangements — particularly for its first establishment — which would prevent its being admitted every where ; but it incontestably forms a part of parlor gardening for all such as can afford the expense, and are willing to submit to the inconveniences occasioned by it for the sake of the pleasures that it will yield in return.

## PART II.

### THE GARDEN AT THE WINDOW.

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### CHAPTER IX.

#### THE GARDEN UPON THE BALCONY.

Exposure of the Balconies.—The Balcony to the North.—Irish Ivy, Hepaticas, Digitalis (Foxglove), Mimulus (Monkey Flower), Hypericum (St. John's-wort), Nemophila, Violets, Periwinkles.—The Balcony to the East.—Cobaea, Spanish Beans, Volubilis.—Suspended Flower Vases.—Disposition of the Flowers upon the Balcony to the East.—Lilacs, Gillyflowers, Pinks, Pansies, Mignonette.—The Balcony to the West.—Sticking Slips of Pelargoniums and Chrysanthemums.—Management of the Growth of the Slips of Pelargonium.—Of the Slips of Chrysanthemums.—Chinese Method.—European Method.—The Balcony to the South.—Sowing Seeds.—Precautions against the Sun.

#### Exposure of the Balconies.

THE TITLE of this work imposes on me the obligation of first saying something to you of

all that it is possible to do in horticulture without leaving your house. I hope I have showed you, ladies, that to satisfy your enlightened taste for beautiful, ornamental plants, and to occupy a part of your leisure time very agreeably, nothing more is necessary than gardening in a parlor. But this in no way prevents your giving also some of your attention to the only out-door garden which is possible to the greater portion of the inhabitants of large populous cities — the garden at the window.

Before any thing else, you must consider the exposure of your windows; for the question is no longer how to cultivate living plants in the artificial atmosphere of an inhabited chamber, or a portable greenhouse. The garden plants at the window are destined to live in the open air, if, indeed, the gaseous fluid of cities, which is alone at their disposal, merits the name of air. The greater part of the time, however, they do not *live* there: reared in real gardens by real gardeners, bought in full flower to shine for some days only, they make haste to die in a medium that is not really air, and where, consequently, one cannot exact of them to live. Your windows are either

exposed to the north, to the east, the west, or the south; or their exposure is intermediary between these four points.

### The Balcony to the North.

A balcony with a full northern exposure, particularly if it looks out on a street of only moderate width, and is situated too low down to escape from the emanations below, is in a position presenting the worst conditions as regards horticulture. Does this mean that we need not attempt gardening there? Far from it. It means only that the choice of plants with which it is possible to adorn our garden is very limited; for all have need, more or less, of contact with the rays of the sun.

First, you must surround the balustrade and the framework of the window with a decoration of ivy, which will give you a perpetual verdure. There are several varieties, the best of which is the *Irish ivy*; its growth more rapid, and its green less sombre, than the common sort. If you take care to curtail such shoots as grow too long, and to pull off such leaves as turn from green to

yellow, the Irish ivy will surround your window to the north with a drapery of ever-verdant vegetation, which will serve to bring out advantageously the few flowers that it is possible to cultivate in this exposure. The *hepaticas*, blue and rose-colored—the *lily of the valley*—the *digitalis*, (fox-glove,) violet and white—the *mimulus*, (monkey flower,)—the *large flowered hypericum*, (St. John's-wort,)—and the charming *nemophila*,—are all plants which, as they grow naturally by the side of great forests, may consequently do without the sun. These, with the violet and the periwinkle for their modest companions, will be the principal elements of decoration for your garden at the window with a northern exposure.

If, regardless of expense, you be fully determined to have on this balcony all the plants of the season, then procure and place them there, despite of the short duration of flowers in this exposure. You will do this knowing beforehand that the plants will die some time after flowering—an annoying result, which, however, cannot be avoided; it forms part of the cost which must be paid for the pleasure of having them there.

### The Balcony to the East.

On a balcony to the east—if the street be a tolerably wide one, and the balcony belong to a story high enough to receive a ration of air, if not very pure, at least supportable—gardening can be practised on a grand scale.

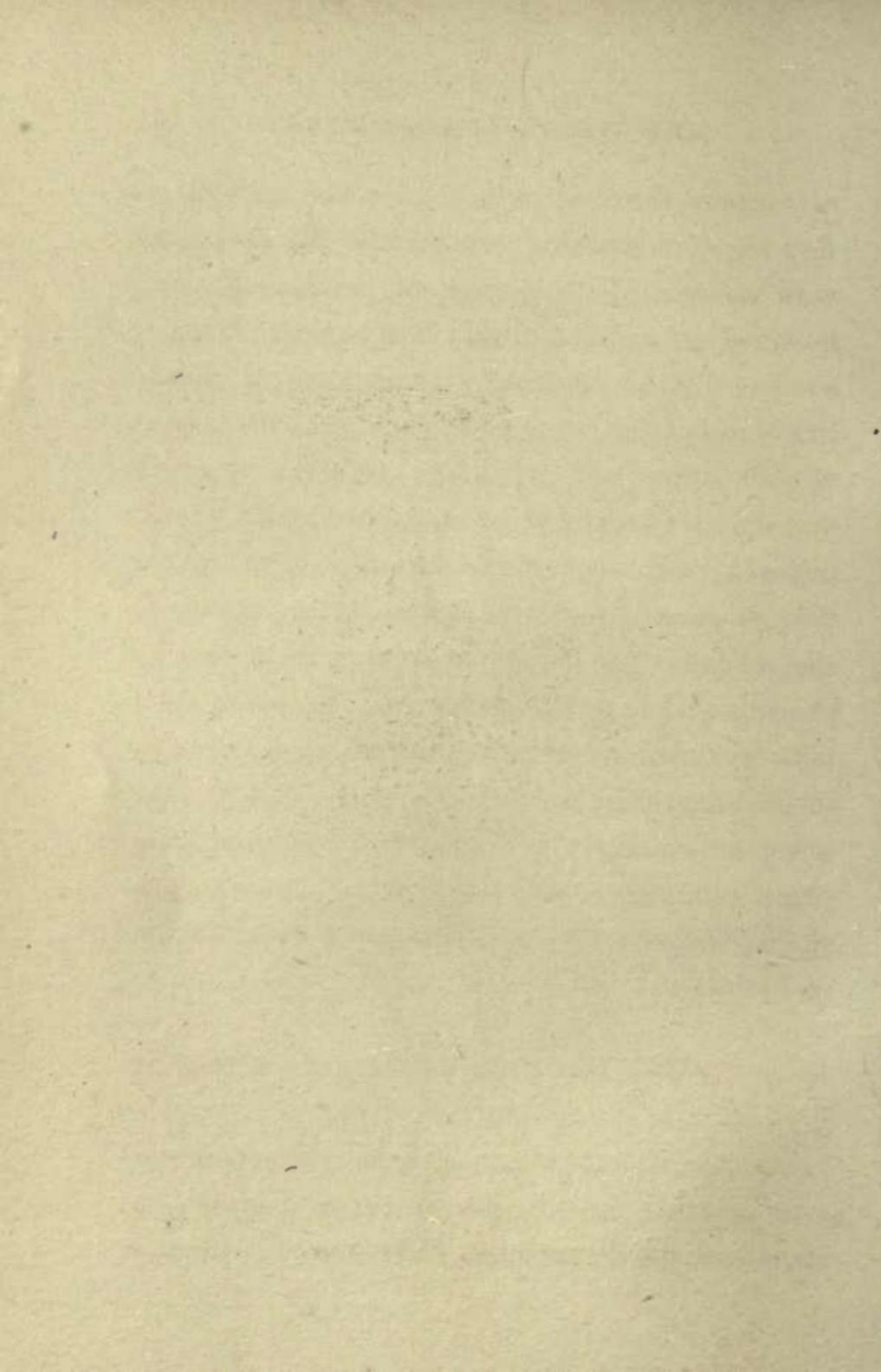
The window may be surrounded with climbing *cobœa*, instead of ivy. This is a plant of very elegant foliage, although its flowers have but little brilliancy. You can give to it for companions Spanish beans and *volubilis*. These two would not have flowered at all to the north; nor will they flower to the east either, as they would do to the west or the south. Their flowers, nevertheless, will, by their lively tints, make an agreeable variety of colors in the decoration of your window with the eastern exposure.

### Suspended Flower Vases.

Giving to this decoration the graceful form of an arch, by means of a simple hoop nailed to the two frames of the window, you must join with it the accessory ornament of an earthen-ware vase



Fig. 8.—Hanging Flower-vase.



of elegant form, in which to place a common flower pot containing ornamental plants; some with straight stalks—such as petunias or red-flowered geraniums; others with hanging stems—such as Chinese saxifrage, the runners of which, like those of the strawberry, bloom at each joint while floating freely in the air. Similar vases are appropriate ornaments for the windows of all other exposures except the northern. During the cold season they can be taken in, and hung to the ceiling like chandeliers; and it is easy to procure such as will perform the office of veritable chandeliers, being set round with sockets for holding candles, choice plants—agaves, for instance—occupying the centre, whilst hanging plants, pouring over, as it were, through the spaces between the candles, depend from the rim of the vase.

#### Disposition of the Flowers on the Balcony to the East.

On the eastern balcony, besides the plants before pointed out for the northern exposure, a great variety of common plants—which are not

the less agreeable for being common — may succeed each other all the year round. That you may not deprive yourself of the use of the balcony, in case of your liking occasionally to stand there, you must take care to place such shrubs as roses and Persian lilacs at the two ends ; next to them, such herbaceous plants as are somewhat tall — gillyflowers or pinks, for instance ; then the rest in the middle. The very low ones — pansies, auriculas, or mignonette — should be in a shallow zinc vessel, such as is used for flower-stands. Thus, when at your window, you feel as if surrounded by all the perfumery of your toilet ; and you will not be deprived of the use of your balcony, when it pleases you to go out upon it to breathe there the best air that the city affords at this season — that is, a compound consisting of a little air and a great deal of dust. As you would not wish to quarrel with your neighbors, nor your landlord, nor the police, you must take care to keep under the pots and boxes ornamenting your balconies vessels of varnished earthen ware, sufficiently deep to hold the overflowings of the waterings ; you will thereby avoid staining the

front of the house, and giving to passers-by a sort of shower bath which may not be to their taste. During prolonged droughts the foliage of the plants of your garden at the window may probably change from green to gray — thanks to a thick coat of dust; in which case, you must, at least once a week, have these plants taken, one by one, to the sink in your kitchen, and there, by means of a watering-pot with a rose pierced with very small holes, give them, one after the other, a good washing, such as they receive from a pretty long shower of rain.

All the flowers of the season — from the violet of March to the chrysanthemum of December — may succeed one another on the balcony exposed to the east. Perhaps the heliotrope (which requires a great deal of sun) and the lantanas, and some others, may be exceptions; these will, at any rate, do better to the west and south.

#### The Balcony to the West.

On the western exposure you have *carte blanche*; every ornamental plant may pass the warm season there. You can place there, for the

whole summer, myrtles, oranges, rose laurels, pomegranates, camellias, kalmias, and azaleas, which belong in winter to the garden in the house. Two sorts of plants, alike agreeable,—the pelargoniums and the Indian chrysanthemums,—can be easily propagated there, by slips stuck in the way I have already shown you. Nor is there any need of a portable greenhouse this time: you may stick them simply in pots filled with good earth, taking care to place over your slips, for the first eight or ten days, a tumbler turned upside down, pressing down the edge slightly into the earth. After the slips have taken, remove the tumblers, and water the young plants once or twice a week with a good glass of dish-water that you have had put aside for this purpose by the cook; you will see with what vigor they put out. I shall take this occasion to give you some advice that will be useful to you, on the manner of training the pelargoniums and chrysanthemums that you have propagated by slips.

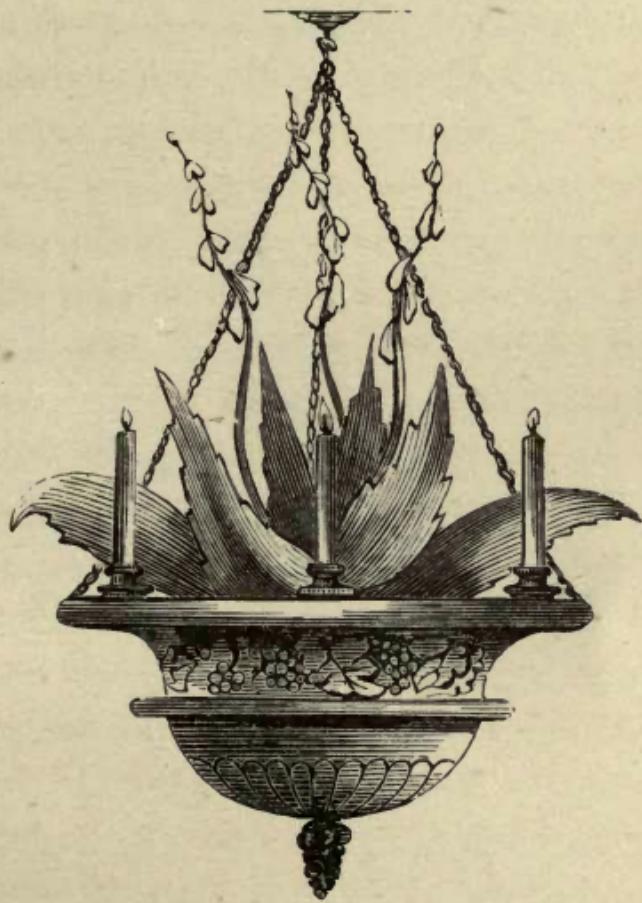
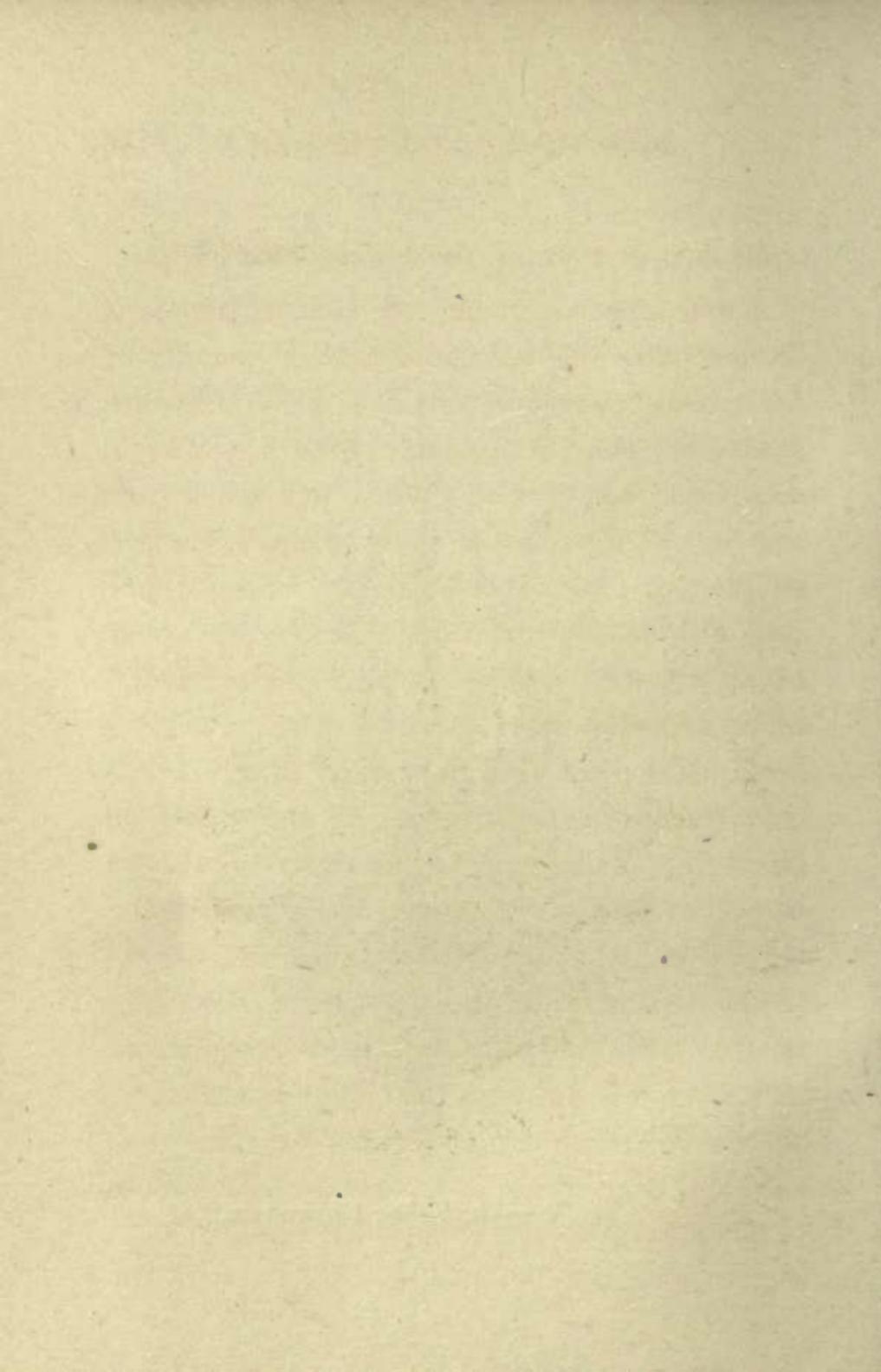


Fig. 9.—Chandelier Flower-vase.



**Method of training the Pelargonium Slips.**

A slip of pelargonium, left to itself, shoots at hazard right and left, puts forth a quantity of foliage and flowers badly: this is what the French gardeners, adopting a term applied generally to colts, call *badly broken*. When you see it well rooted, and beginning to shoot vigorously, pinch off the top. The two or three shoots next below this will develop in side branches of nearly equal strength; destroy all that put out below these, retaining them alone to form a regular head. If one of these branches runs up, and is impatient to pass the others, do not hesitate to pinch it off. Below this point two shoots must be left at first—one of them to be taken off at the end of eight or ten days. Thus will equality in the vegetation of the pelargonium be maintained. These attentions will be a true pleasure to you; you will witness their effect immediately; and the flowering of your pelargoniums thus managed will be as equal and as perfect as is natural to the different species of this beautiful genus.

### Training Chrysanthemum Slips.

Chrysanthemums propagated by slips should be treated in the same manner, according to the same principles. If you belonged, ladies, to the good society of Pekin, instead of to that of our country, the following is the way you would treat your chrysanthemums: After having planted each one of your slips in a deep and slender vase, you would direct your care to the development of the terminal shoots; as shoots made their appearance, they would be pitilessly destroyed. The chrysanthemum thus treated will gain a great deal in height, and will end by forming at its summit a single tuft of flowers, of which flowers one only must be allowed to remain: this one will arrive at a most extraordinary degree of development. It is thus that the wives of the mandarins cultivate the chrysanthemum — the flower of their special predilection. Every year, in the great cities of the Celestial Empire, there are exhibitions specially for chrysanthemums, where every body sends their flowers, and where prizes are decreed for the tallest plants; not as to the most beauti-

ful flowers, but to the most beautiful flower, each plant having but one.

To every country its custom, the proverb says. To ourselves, "outside barbarians" as we are, the chrysanthemum, cultivated in the Chinese fashion, appears, and with reason, completely devoid of grace. You will take care, then, by means of the same pinching process practised upon the pelargoniums, to compel your chrysanthemums to form a head consisting of three or four branches of equal strength, well furnished with flowers, making the plant of such a height from the ground as may be suited to the disposable place on your balcony, and leaving to each branch the number of flowers which it sees fit to have.

#### The Balcony to the South.

It is upon the balcony exposed to the south, ladies, that you can practise the most varied horticulture — a balcony to the south being the border of a parterre on a reduced scale. There, in pots filled with an equal mixture of earth and manure, you may produce, by sowing, all the annual ornamental plants — pansies, Queen Mar-

garets (China-asters), balsams, tagetis (French and African marigolds), petunias, and coreopsis; and to these sowings you will be indebted for this part of the decoration of all your balconies and of your flower-stand. For, upon a balcony with a southern exposure, may be made to grow, from the seed, plants, not only for yourself, but for all your friends and acquaintances besides.

#### Precautions against the Sun.

But the success of this part of your gardening depends on one precaution, for the want of which all would fail. The ardent sun of the summer must never strike directly on the outside of your pots.

In their natural situation, the roots of plants, plunged into the soil, receive only a heat tempered by the coolness imparted to them by the soil beneath. In pots, on the contrary, the extremities of these roots, which line the inside of the pot, and which are the most tender part of them, are literally burnt when the sun shines on its external surface. You must not think that repeated waterings will remedy this: if you water

the plants often, the roots in pots exposed to the sun, being then in contact with hot water, will be boiled instead of being roasted, which will come exactly to the same thing, so far as their life is concerned. It is then indispensable to have a plank, inside of the balustrade of your balcony facing the south, which plank, its edge touching the floor, must reach as high as the top of the largest pots. The outside of the pots being shaded by this plank, the roots of the plants will experience only a moderate degree of heat; for any excess of this may then be prevented by frequent waterings. So says our author with reference to the climate of Europe. In ours, however, plants in pots require an additional protection from the sun — the shade of a tree, or an awning, or something of the sort.

## CHAPTER X.

## THE GARDEN UPON THE LARGE BALCONY.

The Terrace Balcony.—Boxes to furnish it.—Running Shrubs: Glycine (Wisteria), Virginia Creeper, Buddleya, Clianthus (Crimson-glory Pea).—Assorted Plants.—Seedling Ranunculus.—Manner of assorting the Shades.—Use made of the Plants propagated in the Portable Greenhouse: Pinks, Hyacinths, Tulips, Crocuses, Pelargoniums, Chrysanthemums, Fuchsias, Lantanas, Heliotropes, Mignonette.—Utility of this last.—Winter Dress of the Terrace Balcony.—Galanthus (Snowdrop).—Japan Quince.—Hellebore.—Christmas Rose.—Variegated Holly.

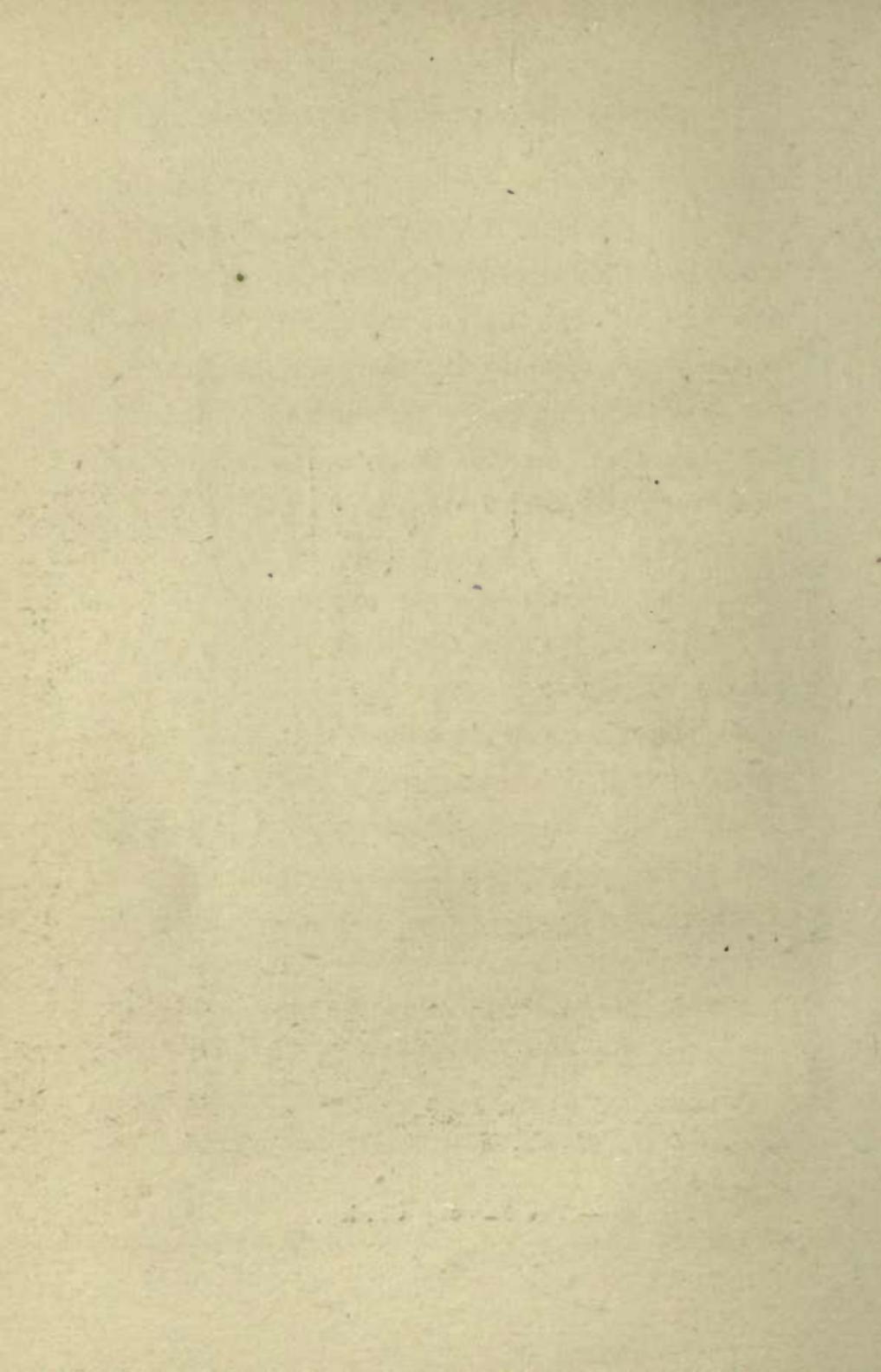
HAPPY the person, who, in the interior of any large city, possesses a large balcony, with an exposure ever so little to the south. It is almost equal to the possession of a garden.

## The Terrace Balcony.

We may consider as garden terraces those long and wide balconies, extending, if not all along the front of the house, at least for a sufficient distance to admit of our gardening there in a far less



Fig. 10.—The Balcony Garden.



confined space than in the mere veranda of a window. Access to such balconies being had through windows reaching down to the floor, before each window an interval should be reserved, to allow you to approach the balustrade and lean on your elbows whilst looking out. Should it be your good fortune to occupy a lodging rendered at once healthy and agreeable by such an appendage as a spacious balcony with a good exposure, the side spaces, intermediate to those kept open in front of the windows, may be supplied with wooden boxes, longer than they are wide, painted green, and filled with good garden earth, mixed with manure. You have but to consider these boxes as the borders of a parterre, and proceed to garden there accordingly, as you would on the ground.

#### Plants for the Balcony Garden.—Wisteria and Virginia Creeper.

At each end of the balcony a box,—its length equal to the width of the balcony,—which two boxes have a special destination: it is there that you must plant a glycine of China—(Wisteria),

and a bignonia, or Virginia creeper (trumpet flower), — the running stems of which are to be trained parallel to each other along the balustrade. Thus, without encumbering the balcony, you will have, in the spring, the beautiful bunches of amethyst flowers of the Wisteria, hanging gracefully outside, and shedding an odor the most delicately sweet of almost any of the whole vegetable kingdom ; and in autumn the flowers of the Virginia creeper, in bunches of a rich red, will renew the decoration. During the intermediate heats, the abundant foliage of these two plants will very advantageously protect the boxes of ornamental plants from the burning contact of the solar rays. You need not contrive any other shelter for them.

#### Buddleya and Cianthus.

To procure still more shade, add to the above a robust plant of buddleya on one side, and a red flowered cianthus on the other.

The buddleya, attached to a solid stick, upwards of a yard and a half high, and left to itself from this height, will fall in all directions, with as much

grace as do the flexible branches of the weeping willow. At each extremity of slender and supple branches will open a long bunch of flowers, of a fine violet color. Should it so happen that some of these flowered branches, in the exuberance of their spirits, stray off so far as to pay a visit to your next door neighbors, these, especially whilst taking the air at their windows, will have no cause to complain of the intrusion.

The clianthus — to which you must give, as a support, four rods of white osier tied together — will very soon hide this support under its abundant vegetation, adorned with a profusion of flowers of the finest carnation color.

If these two shrubs occupied the middle of the balcony, they would take up too much room, and prevent your seeing out ; but, placed at the two angles, they give a little shade, fresh and perfumed, which contributes to render more delightful still those moments of the day that one likes to pass, book in hand, upon the balcony in the midst of flowers.

### Other Plants.

The various ornamental plants of each season—the principal of which I have indicated to you as being suitable for making a show in the garden at the window, at the different exposures—can, of course, be made use of in decorating a balcony large enough to serve the purpose of a terrace.

### Seedling Ranunculus.

If, as I advised, you have amused yourself in rearing in the cold portable greenhouse of your parlor a supply of young roots of the ranunculus, obtained from seeds, you will, after having used such of these little roots as were requisite for the ornamenting of your flower-stand, have a considerable number of them left. In the spring, when you have no longer cause to dread the appearance of any more last lingering colds, plant this residue of those little roots in one of the boxes on your balcony. They will give you, for a month's time, a profusion of flowers of varied shades, some deep and lively, the others

pale and delicate. The first year, these shades will necessarily be mingled together at hazard. When you come to pull up the roots, after the bloom, you must observe the color of the flowers of each plant, and write these colors in a list, with a number affixed to each color. Prepare papers, in which to wrap the roots, by marking each paper with one of the numbers on your list ; and when you wrap up the roots, for putting by till the following spring, place all of the same color and shade together in one paper, bearing the proper number. By this means, when they are to be planted the second year, you will be enabled to arrange the deep and light colors artistically. The deep colors are always the least numerous.

Observe, I beg of you, ladies, that if you take care of your ranunculus when in bloom, watering them at the proper times, and do not allow them to be wasted in bouquets by indiscreet visitors, the finest among them will give you a good supply of fertile seed. The plants that you will obtain by sowing these seeds will not reproduce exactly the colors of the parent flowers ; but, by

sowing those seeds only which come from the choicest flowers, you will be sure to have a beautiful mixture, presenting the finest shades in proper proportions.

#### Plants propagated in the Portable Greenhouse.

The boxes of the great balcony—I suppose them to be large enough—will naturally be the receptacle for the plants reared in your portable greenhouse; and among these will be your seedling pinks, that will all find an appropriate place there. A group of variegated tulips; another of hyacinths, blue, rose, and pale yellow; elegant borders of crocuses, which you have taken care to alternate, white, violet, and golden yellow;—these will enamel your parterre from the very setting in of spring. Do not be afraid to multiply by slips your pelargoniums, chrysanthemums, fuchsias, lantanas, and heliotropes, in order that your boxes may be kept constantly filled with plants in flower. You will never have too many, if you be sedulous not to leave empty places in them. With this view, be always careful to sow seeds in the place of the plants you have trans-

planted. You will be surprised to see how very large a quantity of plants a space apparently so small can hold, if you do what is requisite to make each one of your boxes present constantly, from spring to autumn, a full bouquet, rich in its variety of colors and of perfumes. As regards perfume, sow mignonette every where. It thrives in the shade of the other plants, takes up but little room, and keeps out of sight, its perfume only disclosing its presence; and provided that you take care not to let it exhaust itself in producing too many seeds,—the production of seeds being the business of your garden,—it will continue to bloom until the end of October, holding on till after the first serious freeze. The previous white frosts will then have already killed first the balsams and the Queen Margarets, then the tagetes and the ageratum of Mexico, afterwards the petunias; the chrysanthemums alone will remain. Then it is that you will congratulate yourself for having sowed a great deal of mignonette. So long as it continues to bloom it will contribute largely—now in a far larger proportion than before—to the pleasantness of

the visits you will continue to pay, in November, to your balcony garden, on the few fine days which the departing year may yet have in store for you.

### The Winter Dress of the Balcony Garden.

Winter is decidedly come. Your faithful little mignonette, yielding at length to what the jurists call *force majeure*, has abandoned you, and disappeared from your boxes; your chrysanthemums have taken shelter within doors, that they may there continue to present you with flowers. Now, then, as they can no longer wear their summer garments, give to the borders of your balcony parterre their winter dress, which, though much less variegated, is far from being without charms. Plant there those beautiful tufts of the galanthus, its white flowers bordered with green. Its common name, snowdrop, may perhaps be more familiar to your ears; and this name its robust temperament fully justifies, for it is endowed with a most hardy constitution—one that enables it to bloom bravely between two freezings, so that when a pale ray of sunshine comes

to melt a thick layer of snow, one is agreeably surprised to find the snowdrop in full flower.

One or two little bushes of Japan quince, some plants of the Christmas rose, two or three hollies, with their variegated leaves, green and white, among which the fruit shines like coral beads,—these will clothe your great balcony with attractions that may tempt you out there to inhale the wintry air, except on the worst days of this worst of the seasons. You will have received there from Autumn the last of her flowers as a *souvenir* of past joys. You will now obtain there, from her grim successor, a present, acceptable in itself, and yet more so as a harbinger of the coming spring.

And thus, ladies, the refined and refining pleasures which the practice of gardening affords will have been enjoyed by you, in all their variety, without your leaving the house.

## CHAPTER XI.

## THE GARDEN UPON THE TERRACE.

The Terrace Garden.—How it takes the Place of a Garden.—Terrace exposed to the North.—Its Trellised Roof.—Irish Ivy to cover it.—Shrubs to fill the Boxes.—Variegated Holly, *Alaternus* (Buckthorn), Rhododendrons, Great Periwinkle.—Terraces of a good Exposure.—Running Plants: Honeysuckle, *Clematis*, Boursault Rose, Bougainville, Chinese Glycine, Virginia Creeper, Buddleya, *Cianthus*, *Delphinium*, Hibiscus.—Summer Pruning of the Persian Lilac.—Watering.

## The Terrace Garden.

TERRACES on the roofs of houses are not common with us. I shall, however, not omit what our author says about gardening on terraces; for, besides that it is very interesting, the flat roofs of extensions and back buildings answer every purpose so far as gardening is concerned.

Terraces, like the windows of your house, may be exposed to the north, the east, the west, or the south. You already know that, for garden-

ing purposes, the two last exposures are the most favorable; particularly if your terrace has open space enough before it to permit the air and the sun to reach it without much obstruction.

#### Terrace exposed to the North.

Let us take the worst hypothesis first: your terrace is fully to the north; in all other directions it is hemmed in by lofty buildings, so that the sun has the right to visit it the 35th of every month, and then only. You have, however, done very well, ladies, to have a terrace constructed, even under these unfavorable conditions. At its centre have a wooden column erected, which is to sustain a trellised roof consisting of four triangular parts. The Irish ivy will quickly overrun this, covering it with its thick verdure. A round table, through the centre of which the column passes, will be a convenience for placing your books and work upon, also for taking breakfast and tea there, when, oppressed within doors by the heats of summer, you take refuge in the open air, under the shelter afforded by that dense foliage. One side of the terrace being

closed by the wall of the house of which it is an appendage, in which wall are the doors and windows opening upon it, erect, at each of the other sides, two arches, from the centres of which vases are to be suspended.

### Shrubs blooming in the Shade.

Just within the balustrade, or the parapet (if it be a parapet) of your terrace, we must have a range of boxes similar to those on the great balcony, which, by our joint endeavors, we have been getting all the good out of that we could. This terrace garden of yours being a northern one, its boxes must be filled with heath soil ; and we must rear there shrubs with persistent leaves — variegated hollies, *alaterni*, *rhododendrons*. These are among the shrubs which tolerate the shade, and whose robust temperament does not fear the cold, and, with the great periwinkle for their associate, they will constitute the basis of the decoration of your garden. Add to them whatever ornamental plants I have previously made known to you, as being able to bloom passably well without the help of the sun.

When the heat of the dog days renders coolness precious, your friends will be glad to come and partake with you of that which your ivy-clad arbor affords: for three months its freshness will be a source of delightful feelings for them as well as for yourself. Do you say this is no great thing? Agreed. But, on your side, you will have to admit that it is a great deal better than nothing at all, and that, as a general rule, it is wise not to ask of any thing more than it can give you — a rule which, applying as it does to your terrace with a north exposure, as to all other things, must be its protection against unwise exactions.

#### Terraces of a good Exposure.

What we have effected, in the way of gardening, upon your balconies to the east, west, and south, you have only to repeat on a larger scale, if your terrace garden has one of these exposures. Here, however, is the place for some advice respecting certain plants, of medium and large size, that we have not been able to cultivate before, for want of room.

### Running and Climbing Plants.

That trellis roof, when it has the good fortune to be removed to a terrace with a good exposure, admits of being clad in a garment composed of the most agreeable mixture of climbing and running plants, in place of the Irish ivy, which, in the northern exposure, was its only covering. Do not be afraid, ladies, to vary and multiply these plants; they will agree very well with each other; each one will take its just share of air and of sun; each will bloom in its own proper time; vying with each other, in the most amicable spirit possible, in their joint task of weaving over your head the most charming canopy that can be conceived.

At the corners of your terrace plant honeysuckles, clematis, Boursault roses, and Bougainville, to which you may add the glycine of China, and the Virginia creeper. Whilst climbing up the pillars that sustain the arches of the trellis, the buddleya and the clianthus will feel entirely at home; nor will they be incommoded by the company of a tall hollyhock

and a fine Ajax delphinium, attended by two or three hibiscuses.\*

The room which all these will possess themselves of, on the balustrade of the terrace, will still leave enough there for yourself when you wish to lean on it, and look down upon whatever there may be worth seeing below.

#### Summer Pruning of the Persian Lilac.

On terraces having a western or a southern exposure, besides the boxes serving as the border beds of your garden, there may be others, of a medium size, for receiving oranges, myrtles, pomegranates, rose laurels, and even a few fine Persian lilacs.

When the elegant spring bloom of these last is over, do not omit to subject them to the summer pruning. This is a happy innovation, introduced into our horticulture but a few years ago, and already generally adopted. The process is as follows:—

When the flowers of the Persian lilac have faded, we do not, as formerly, content ourselves

\* The althaea is an hibiscus.

with merely cutting off the bunches from which the flowers have fallen; we cut off the tops of every branch of the plant, and, moreover, every thing that is green upon it, the lilac thereby finding itself stripped entirely—no less perfectly naked than at Christmas. But very soon the inherent energy with which the Persian lilac is endued manifests itself in a most vigorous vegetation: young shoots, all of equal length, all equally floriferous for the next year, replace the pruned-off branches; and you have a plant the very best of its kind. A necessary precaution, with respect to lilacs and other shrubs cultivated in separate boxes, is, to turn the box partly round twice a week, so that each side of the plant may receive by turns its just share of air and of light. Otherwise the natural propensity of plants to grow most vigorously on the best lighted side will cause them to shoot out mostly on one side, whereby the symmetry of their heads would be entirely spoiled, and in the course of a single summer they would be altogether deprived of grace. When the boxes are turned often enough, the annual growth cannot get a wrong set.

### Watering.

When your terrace has a southern exposure, the earth contained in the boxes forming the border requires watering two or three times a day; the heat reflected from the floor of the terrace, especially when of metal, causing a far more rapid evaporation than would take place in the borders of a parterre having a similar exposure. These waterings, the sowing of seeds, sticking slips, transplanting; removing day by day the faded flowers, and gathering of seeds for next year, will be just so much healthful exercise for you in the open air of your terrace garden.

These attentions and this work—of which you must be careful to do no more than you can do without over-fatigue, without occasioning feelings of exhaustion—will imbue you with a taste for ornamental plants; which, becoming more and more lively as you proceed, will finally expand into a real love, such as that with which we love living beings reared by our care. With your sex it is matter of instinct to love all that is gentle, tender, elegant, and graceful.

Do not imagine, ladies, that the above is all that the garden on the terrace can yield for you in the shape of pleasure arising from the practice of horticulture; there is, besides, quite a different series of facts, which you will appreciate if you will take the pains to read the following chapter.

## CHAPTER XII.

## FRUITS UPON THE TERRACE.

Fruits that we can have on the Terrace.— Alpine Strawberry.— Buisson de Gaillon.— Virginia Scarlet Strawberry.— Strawberry of Chili.— Superb Wilmot.— Goliah.— Bicton White.— Queen of Great Britain.— The Vine.— Pruning.— Thinning out the Grapes.— Thinning out the Leaves.— Cherry Trees.— Plum Trees.— Currants.— Raspberries.— Forced Fruit on Dwarfs.— Cutting the Dwarf Fruit Trees on the Terrace.— Management of Cherry Trees, Plum Trees, Strawberries, Raspberries.— Form that suits the Raspberry in a Pot on the Terrace.

Fruits that it is practicable to have on a  
Terrace.

WHO IS not a little of an epicure? Epicurism and idleness—the love of those pastimes often called *idle*—are the least of the seven mortal sins; as to the others I will say nothing, being averse to dealing in scandal. A little gluttony as regards fruits is so natural! As to myself, I cannot honestly deny, and therefore frankly confess, that I sympathize with our mother Eve.

The fruits, however, of which I am about to speak, have the merit of not being forbidden; they are, on the contrary, among the most admissible of things.

Now, you are going to ask me if I pretend to make you engage in planting fruit trees on your terrace, such as there—perhaps—were in those famous “Hanging Gardens” of Queen Semiramis; which gardens, by the by, — supposing them to have ever existed,— were nothing more nor less than terrace gardens, such as your own; only, in a degree,— never mind what precise degree,— more spacious. I have no such grand enterprise to propose to you, ladies; no scheme of the sort is in my mind. I desire merely to call your attention to a small number of excellent fruits, of which you can easily have a harvest,— I do not promise that it shall be large enough to load a ship,— upon your terrace.

In the first place, then, an assumption on my part. I assume that your terrace is sufficiently spacious to admit of your border boxes being large enough to afford room for the worship of Pomona, as well as for that already appropriated to Flora;

and this without the least encroachment upon the rights of the lady last named. This pretty little figure of speech — a perfect statuette, is it not? — is not original with me: I beg you to understand, ladies, that I lay no claim to its authorship; it belongs to the late Rousselon, and first appeared in his *Annals of Flora and Pomona*.

Now, — to descend from the airy heights of fancy, and engage in our work upon material realities, — you will find that a few strawberry plants will not be at all in the way of your ornamental ones. And this being the case, will it not be pleasant to you, while engaged in your horticultural labors, to find, now and then, under your hand, a fine, ripe strawberry or two? And these of your own production!

### Strawberries.

If you open the catalogue of a horticulturist by profession, you will be frightened at the innumerable varieties of the strawberry; each variety asserted by the venders to be perfect; whilst, in point of fact, the fruit produced by the greater part of them will prove to be either flavorless or

sour; or—in fine, with some defect or other, rendering it not worth cultivating. I—who am very cautious on this score, and who, as the result of long experience, generally eschew all such—can safely recommend to you, as among the most desirable, the old-fashioned alpine, which is a monthly bearer, the Virginia scarlet, the Chili, and those English varieties called, respectively, Wilmot superb, Goliah, Bicton white, and queen of Great Britain. This last is noted for its extraordinary fecundity. It is of the strawberry—mind you—that I state this. You will recollect that plants—plants exclusively—constitute the subject of our present discourse; and you must not let your thoughts stray off into other fields.

By adopting these varieties, and planting here and there among your flowers a couple of plants of each of the eight\* above named, you will have in all sixteen; each one of which will give you on an average six fruits. This will be ninety-six strawberries—in round numbers, a

\* The eighth, being peculiarly a French strawberry, has been omitted.

hundred — that you will enjoy the flavor of, one by one, as they successively ripen, and as the climax to the pleasure you will have been experiencing all the while in watching their growth and ripening. As respects the latter point, great self-control on your part is indispensable. I warn you of this beforehand; for if, through impatience, you gather them too soon, even so much as a single day too soon, you will lose by it, I assure you. Their flavor cannot do justice to its own merits at any point short of the most perfect maturity. Your strawberry plants will require no other attention than that of taking off the runners by which they propagate themselves. As to water, they will take care of themselves, drinking their fill from the supplies placed within their reach in watering the other plants. You must remember to renew them every two years, by means of runners that you will reserve for the purpose.

#### Grape Vine.

Of all your fruit-bearers, the one that will yield the most bounteously is the grape. For some years past the vine has been a good deal

cultivated in pots, in order that it may be *forced*; that is, be compelled to produce fruit long before the time when it will be produced in the open air. This *forcing* consists simply in cultivating the vine in a hothouse, or tempered greenhouse. Buy vines, if you can, all trimmed and ready for bearing, and place the pots containing them at the foot of the posts supporting the arches of your terrace arbor. They will there find a suitable support in the situation the most favorable to the ripening of the fruit. Train them so as to make them grow in festoons. In due time grapes will be there, within reach of your hand, hanging in golden bunches, all the way from the base of the pillars up to where the vases are suspended at the centre of the arches.

Will not this be charming?

#### Trimming and Thinning.

Two things are indispensable to make your grapes as good as they ought to be — to cut off the top of the vine, which must be done as soon as its young grapes are formed, and as large as a pea, and to thin out the grapes when too thick in the bunch.

This last operation is as follows: When the vine grows in good earth, in a good exposure, and has been skilfully pruned, and when too much fruit — too many bunches — has not been left upon it, each blossom will produce its fruit. As they expand the young grapes crowd each other; they get squeezed together, and pressed out of shape; the air and light can get only to those on the outside of the bunch. The consequence is, that the bunch has not half the value at market that it would have, had the matter been differently managed. Do you know, ladies, what, in order to avoid this misfortune, is done by the wives and daughters of the gardeners of Thomery? Thomery is a little village where those unrivalled grapes are produced, which are sold at Paris under the name of "grapes of Fontainebleau." These women, each armed with a pair of pointed scissors, patiently cut out, from each of those little bunches of which every distinct bunch is composed, one young grape in every three. And this is the way I now advise you to treat all bunches produced by the vines on your terrace.

You will, I acknowledge, have but four vines

growing in so many pots, and you may perhaps fancy that the produce, however good in quality, must needs be insignificant in quantity. Let us, then, make a little calculation. Arithmetic, you see, will thrust itself into all human affairs, horticulture not excepted. Well, then, each one of your four distinct vines will have four main branches, (that are cut down short, say to about six inches in length;) from each one of these branches there will be two running vines, and each one of these running vines will bear two bunches of grapes. If all turns out well, as you have reason to hope, you will then have to gather in September or October — how many bunches? Why, if arithmetic be a reliable prophet, you will have no less than sixty-four bunches of grapes. Is not this number large enough to warrant your inviting, if not all your acquaintances, yet at least the whole circle of your most intimate friends, to aid you in the joyous labors of your vintage?

#### Thinning out the Leaves.

About a month before vintage time you will have to perform upon your vines a chirurgical

operation which requires considerable judgment in the execution. By the French it is called *épamprer*, which signifies to unleaf; consisting, as it does, in taking off such leaves as prevent the sun from striking directly on the grapes, which solar action is indispensable to their being gilded with their proper rich yellowish hue, and to their possessing that richness of flavor of which this hue is the only guarantee. If the bestowing of all these attentions upon your vines be not an amusement for you, then,—permit me to say it,—you do not deserve to enjoy the eating of a good bunch of chasselas.\*

#### Cherry Trees, Plum Trees, Currant Bushes, Raspberries.

Are strawberries and grapes all the fruits that you can have on your terrace? No, certainly. There are beautiful dwarf trees, about the culture of which I am going to give you some hints, which, if you profit by them, will enable you to have, in addition, cherries and Mirabelle plums; and your variety of terrace garden fruits

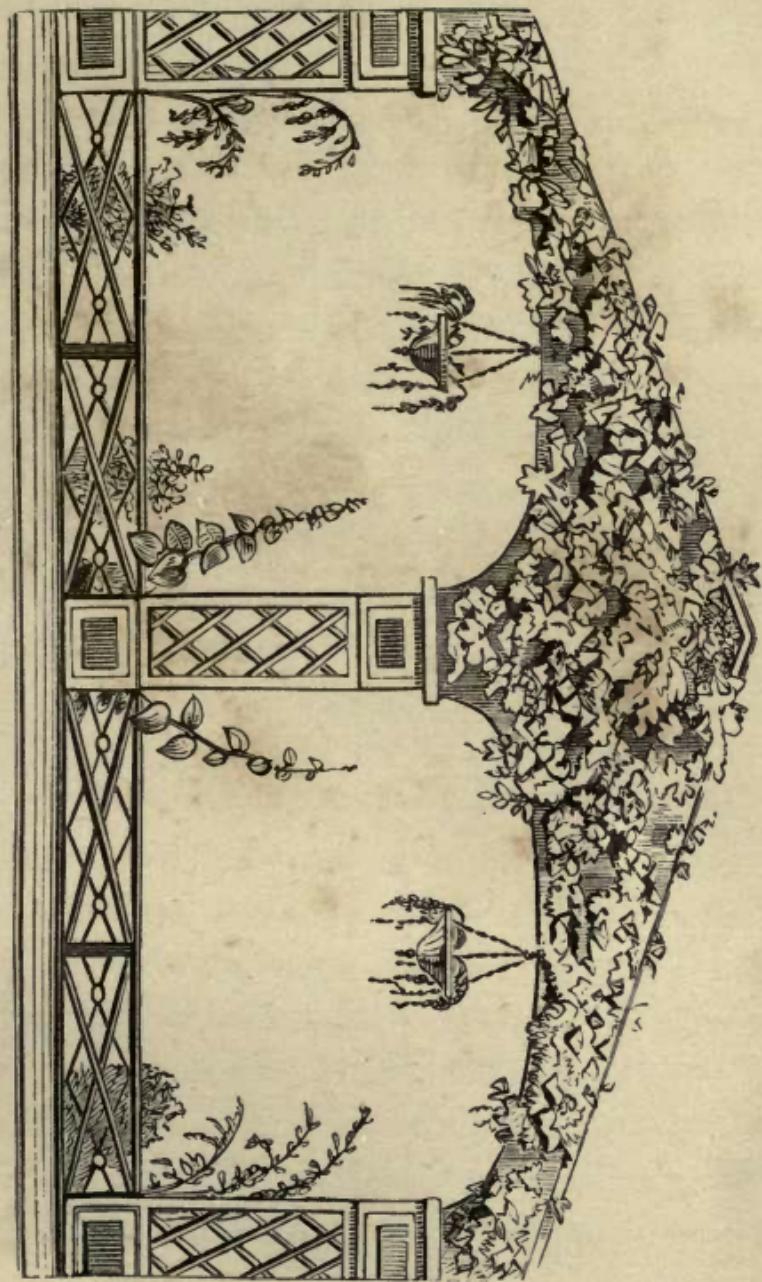
\* It would be well to try this method with other grapes.

may be further increased by adding to these dwarf trees a couple of currant bushes,— a white and a red,— and three or four raspberry plants. The dwarf cherries and plums, cultivated in large pots or in boxes, like the pomegranates and Persian lilacs, will bloom perfectly on the terrace. You can purchase them all prepared. They will “load heavily,” as the French gardeners say, and it will be a lively satisfaction to you to gather their ripe fruits, some time before the usual time of their ripening; for, placed on the terrace, they are in the best of situations for enabling them to work energetically, and force their fruits forward to early maturity.

#### Forced Dwarf Fruit Trees.

Is it your desire to have ripe cherries and plums to eat so early as April or May?— a time when, if you have to buy these fruits, you must pay very extravagant prices for them. If this be your wish, it is very easily gratified. About a fortnight after their leaves have fallen, in autumn, remove your dwarf fruit trees (which I suppose to be in pots) from the terrace into the

Fig. 11.—Terrace Garden.





house. They will soon begin again to vegetate, and by January or February they will be in bloom, which, of itself, will be very agreeable to you; and they will ripen their fruits a month or two before those in the open air. To enable them to do this, the only assistance they require from you is to be placed near the windows, and to be turned every day, so that each side may receive its share of light, and to have the air they breathe kept up at a constant temperature of from sixty-two to sixty-three degrees of Fahrenheit's thermometer. This will be about the temperature of your room; the one at which it would be kept as being the most pleasant to yourself, and the best for your health, as well as comfort; so that you will not be put to any additional expense, nor have to derange your habits in any way for the sake of these dwarf fruit-bearing pets of yours.

You see now that fruits, no less than flowers, have their part to play on your terrace, although the principal part appertains to the flowers. When you receive your friends, will it not be very pleasant to have cherries, and cur-

rants, and raspberries to offer them, at a season when they are great rarities in the market, and to be had there only at prices which the Croesuses of the stock exchange can alone afford to pay? Will not your guests be delighted to assist you in gathering these nice fruits from the tree with their own hands? And, when placed upon your table, as its central ornament, will they not look far more beautiful than if they had been bought with money?

#### Pruning Fruit Trees on the Terrace.

Don't trouble yourselves about pruning your dwarf cherries and plums. The gardeners have a saying, that these trees — whose wood always contains a great deal of gum — do not "love the knife;" they ought, therefore, to have it applied to them as seldom as possible. As seldom as possible is still too often; in a word, so far as they are concerned, keep your pruning-knife in your little gardener's tool-chest; they will thrive all the better for its being left there — be all the more productive.

The raspberries, which are simple shrubs, have

their own way of vegetating ; they are perennial in their roots only. The annual stalk, after having borne its fruit, dies in autumn ; and it ought then to be cut down level with the earth in the pots. The root puts forth every year, in great superfluity, young shoots which are destined to bear fruit the following year ; and, of these shoots, but three only must be allowed to remain on each plant — that is to say, if you wish to have a good crop of really fine raspberries. In the spring, cut off about a quarter from the length of these reserved shoots ; the buds at the middle of the stalk will now develop better than if it had been left entire ; and it is from these buds always that the finest of the fruit comes.

Currants require only to be freed from the old wood — that is to say, the exhausted branches, which will no longer bloom, and which, with their tops supported on a single stalk, encumber the inside of the bush. By their being trimmed in this manner, the fruit will come out at a good height, far enough from the earth not to be soiled by the spattering of earthy particles during heavy

showers and waterings; this, therefore, is the best way of trimming currants on the terrace.

Now, ladies, I hope you will agree that the culture of fruits on your terrace, if you keep them in their proper place, has its merit as well as that of the flowers.

## CHAPTER XIII.

## THE DOUBLE WINDOW.

**A**dvantages of a Double Window.—Their Use in the North.—The Manner of decorating them.—Glass Stands.—Plants proper for the Double Window.—Grevillea, Kennedia, Blue Lobelia, Gesneria, Gloxinias, Achimenes, Brunfelsias, Torrenia Asiatica, Ixora, Echmea, Begonias.—Sparmannia.—Retractility of its Stamens.

**A**dvantages of a Double Window.

**A**FTER having done our gardening in the parlor, wishing for a little more room in which to pursue it still further, we came out of doors. Here also our work is completed. Let us then go in again.

In all countries where Winter brings in his train a long succession of vigorous colds, in order to guard the better against these, the inhabitants, instead of having in their windows but a single sash, use the wise precaution of having two — the outer one even with the outside of the

house, the inner one even with the inside wall of the apartment. Thanks to this arrangement, the cold reigning without is so far excluded that a mild temperature is preserved in your chamber, while, at the same time, there remains between the two sashes a vacant space which is at your disposal for any uses to which it is susceptible of being put. It is the very thing for our gardening purposes.

The English like to keep avadevats there; by the Dutch, this space is dedicated to canary birds, which they understand perfectly how to rear, Holland being the country of all others where these birds do most abound. There is nothing, however, ladies, to prevent you from appropriating it to your favorite pets—flowers.

It is evident that whenever the interior sash is kept open, the interval between the two sashes receiving, as it then does, a portion of the atmosphere of the chamber, will of course be of the same temperature. This space, then, is equivalent to a little conservatory, either merely tempered or hot, according as the person who occupies the chamber is more or less chilly; and in

this temperature all the cultures that can be conducted on a large scale in greenhouses, tempered merely, or hot, are equally possible on a small scale in the double window.

#### Manner of decorating it.

Before filling it with flowers, you must suspend there an elegant earthen-ware vase in which to put a plant from the order bromeliaceæ\* — a Guzmannia, for instance, the leaves of which plant resemble those of the ananas; and in the centre of this foliage there appears a flower of so brilliant a red that one cannot steadfastly gaze at it without its fatiguing the sight. The size of this vase must be proportioned to the width of the window, and to the dimensions of the plants that you propose to cultivate there. It is best that the small pots which you have at the two sides be supported on shelves formed of panes of glass, because wooden stands would intercept the light

\* Order Bromeliaceæ (the pineapple family) consists of American and chiefly tropical plants; with rigid and dry channelled leaves, often with a scurfy surface; a mostly adnate perianth of three sepals and three petals, and six or more stamens; the seeds with mealy albumen. — Gray's *Botanical Text Book*.

too much. I think you would do well to follow, in arranging the plants in the double window, the advice I gave with regard to those in the garden at the window.

### Plants proper to be placed here.

Place on the shelves of the glass stands at the two ends of the window-sill plants of a low and tufted nature: first, on the upper shelves, such as, without being precisely climbing or running plants, are taller than they are broad. There is nothing of this sort more graceful than the shrubs of the genus *Grevillea*. On the front or lower shelves place small plants which bear many flowers, such as the Kennedias and the blue lobelias of Surinam. Arranged in this manner, they will not be in your way when you wish to stand close to the outer sash to look out at the wintry scene, as a contrast to your tropical garden within. Your double window is an excellent place also for making a display of the plants you have obtained from seeds and slips reared in the hot portable greenhouse. Your choice is not a limited one by any means. In the course of my

instructions, I name only some of those which I consider as most worthy of your attention. What I shall say in regard to their culture will be a sufficient guide to you, should you desire to admit into their society others that require the same temperature.

### Gesneriaceæ.

The double window can also lodge, very much at their ease, plants of the order *Gesneriaceæ*,\* of the three genera, *Gesneria*, *Gloxinia*, and *Achimenes*. I have already had occasion to remark with what perfect docility a leaf, or a mere fragment of a leaf, from a plant of this last named genus will take root when we wish to propagate it by slips.

The gloxinias are not less accommodating: their foliage resembles the most beautiful green velvet, and their flowers, in the form of a goblet, have in the inside a large spot, which is always of a different shade from the flower itself. The gesneriaceæ require a great deal of water and of heat; they must be watered several times a day,

\* Order *Gesneriaceæ*, consisting of tropical herbs, with green foliage and showy flowers.—Gray's *Botanical Text Book*.

and whenever you have reason to fear that they may be seriously injured by the cold at night,— which would happen only when it freezes very hard outside,— you will take the precaution of placing them on your mantel-piece for the night. Their bloom continues very long, and will fully recompense you for your trouble. Treat in the same way the Brunselias, the torrenia Asiatica, the yxoras,\* the *œchmeas*, and the small begonias, which, in company with each other, inside of your double window, will constitute there a charming little parterre taken from the tropical flora.

### Sparmannia.

Do not forget to add to the above one or two plants of the Sparmannia, a native of the Cape of Good Hope. In this pretty plant you may observe, while it is in bloom, the phenomenon of *retractility*, — with a contrary effect, however,— which renders the *sensitive plant* so curious. Touch delicately with the end of your finger the summit of the stamens of a flower of Sparman-

\* There is an interesting history of the yxora in Mrs. Loudon's book.

nia in full bloom : instead of modestly closing, in imitation of our gentle mimosa, they will forthwith scatter, spreading out in every direction with a brusque and instantaneous movement. Some time after they will return to their former position. This property of the stamens of the Sparmannia, less generally known than that which manifests itself in the closing of the leaves of the sensitive plant, is not less curious or interesting to observe.

#### Forced Strawberries.

If you have two or three double windows instead of one, place pots of strawberries upon the glass stands of one of them ; they will bloom in January, and will give, each one, five or six strawberries in February, when out of doors the earth will perhaps yet be hard frozen, or covered with snow, and the river will be covered with skaters. At such a time a single strawberry, gathered from a plant forced by your care, in one of your double windows, will have the right to seem supremely delicious to you.

## CONCLUSION.

AND HERE, my dear ladies, ends the series of notions upon horticulture in the house that I proposed to give you. Can the Parlor Gardener flatter himself with having inspired you with a little interest for those plants that you already loved without knowing it, — for you were predisposed by your nature to do so, — and that you will love better and better in proportion as you know them more? One thing above all ought to have struck you in the course of our discourse: it is, that in all that I have taken the liberty to recommend to you, there is not a single process that each of you cannot practise by yourself; not a single culture that you cannot succeed in by conforming to my hints. Success in our undertakings, whatever the thing may be that we undertake to do, is always pleasure — often happiness.

Let us understand each other, however. I do

not pretend that every thing you do will be always crowned with success; you will often go wrong, and then your attempts will necessarily fall through; this is inevitable. But this much I can promise, and answer for—that with a little reflection you will always be able to discern the cause of your failure; and this being seen, you can then begin again, and obtain from a second attempt what you could not from the first.

My dear ladies, I shall enjoy the pleasure—in imagination, at least—of seeing you engaged in adorning with these beautiful children of Flora, first your mantel-piece, next your *étagère*, then your flower-stand, your balcony, and your terrace, all in due succession. I can picture to myself the liveliness of the satisfaction with which you will watch the growth and the opening of the first bud of the first camellia, grafted with your own hand, and that also with which you will gather the first fruit of the first cherry tree that you will have forced under my directions. No doubt the ladies of your acquaintance will take pleasure in following your example—this inoffensive taste for gardening is

also a growing and spreading thing. Permit me, then, dear ladies, to indulge the hope that there will spring out from all this — amidst the violets and mignonettes — a little kind recollection of THE PARLOR GARDENER.

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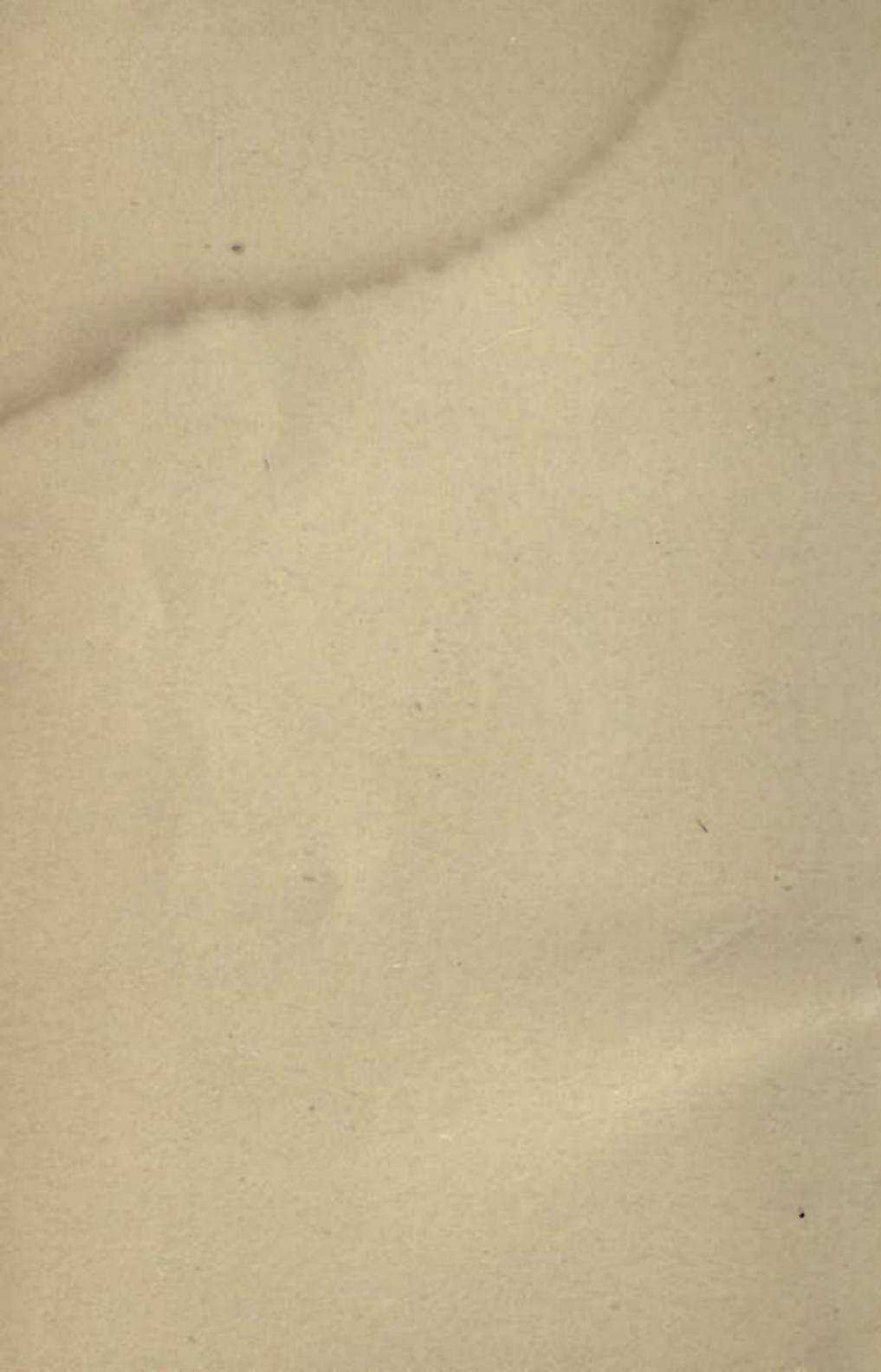
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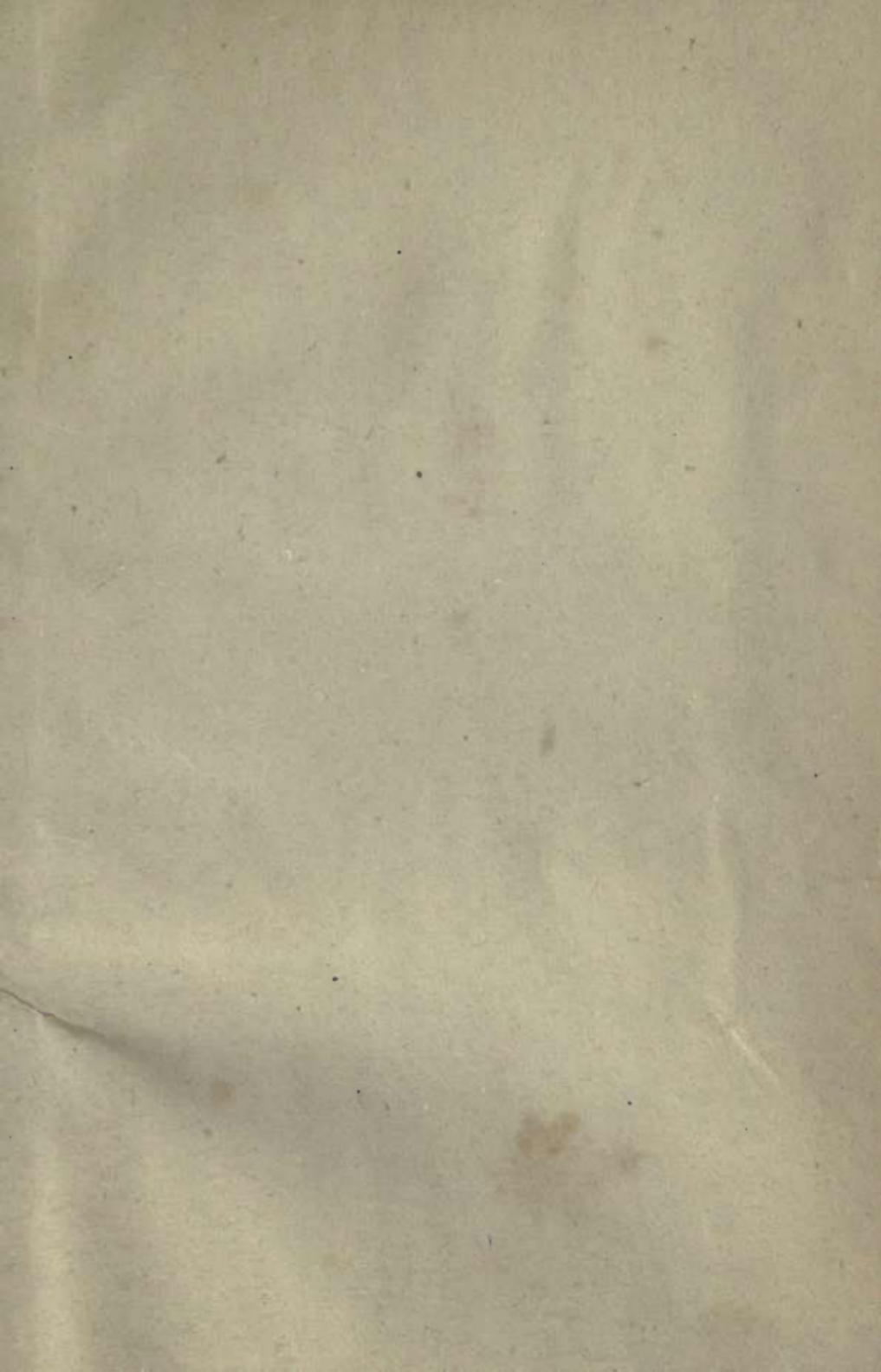
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